

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXI.

NEW YORK, SATURDAY, JULY 17, 1897.

No. 3.

ORIGINAL ARTICLES.

SERUM-THERAPY IN ACUTE SURGICAL INFECTIOUS DISEASES.*

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TWENTY-SIX years ago, Sir James Paget devoted several pages of the *Lancet*¹ to a paper on dissection poisons. The thoughts there so vividly and elegantly expressed were suggested by the distinguished author's recent personal experiences with septicemia, which he incurred while examining *post-mortem* the body of a man who died of acute sepsis following lithotomy. The observations and speculations of Paget are most interesting when we think that they were made before the germ theory of disease had been accepted and before anything was really understood of the true pathology of wound-infection. Paget observes that "not all men can be made ill by a virus from a dead body, nor can the same man be made ill at all times; but there must be what is called a fitting soil for the virus to work in. We know no more what this soil is than we know what the virus is." And again, further on, he observes that "a chief interest in reference to these various susceptibilities to the influence of the virus from dead bodies is, that *one may become insusceptible* [italics mine]. They who are day after day engaged in *post-mortem* examinations usually acquire a complete immunity from the worse influences of the virus. . . . They do not suffer with any infection of the lymph or blood."

This was written in 1871, and twenty years and more elapsed before the first attempts at artificial immunization were made. Yet now that the ice has been broken, the activity in this field of research has become enormous. The amount of literature during the last eighteen months on the cure and prevention of infection by the use of substances prepared by Nature herself in mammalian bodies is truly astonishing. I shall not here take time to describe the progress in this new and fascinating study; it was excellently done by Roger and Haushalter but a few months ago.²

Experimental work in the serotherapy of acute surgical infections has its object in combating the various pathogenic organisms—for example, the colon

bacillus by Drs. Albaran and Mosny,³ bacillus pyocyaneus, the bacillus of glanders, anthrax, and the staphylococcus by Kose and others,⁴ the bacillus of tetanus by Behring, Kitasato, Tizzoni, and others,⁵ and the streptococcus by Marmorek and many others. The actual value of the serum treatment of disease caused by these micro-organisms in the human subject is not yet determined, though in the laboratory animals are immunized, cured, or killed with a pretty fair amount of precision.

Tetanus.—Hewlett⁶ quotes Sir Astley Cooper to the effect that a patient with tetanus may recover spontaneously, but he believes that the antitoxin should be used in all cases, and very early. A case reported by J. W. Cokenower of Des Moines⁷ but a few weeks ago is of great interest. A man infected about six days before had seventy-five convulsions per hour. After antitoxin had been given, the spasms were reduced to ten in an hour, and there was marked general improvement. Unfortunately, the supply of antitoxin gave out, there was a return of the evil symptoms, and the man died.

Dr. Trapp⁸ of Helferich's Clinic in Greifswald, reports a most malignant case of tetanus with opisthotonos and severe and lasting trismus cured after injections of Tizzoni's antitoxin. Trapp's impression of the antitoxin treatment is very favorable because of the rapid improvement noted. He recognizes the fact that the man might have recovered without antitoxin, but cannot help believing in its efficacy.

Tetanus, fortunately, is not a common disease, and its percentage of mortality varies so widely according to different observers that an accurate estimation of the value of serotherapy in its treatment may hardly be expected in the near future. It is probable, however, that the antitoxin, if it is to be of real benefit, should be employed as a prophylactic, especially in cases in which suspicious wounds occur during the progress of an epidemic of tetanus. If we wait until the characteristic symptoms of the disease are present, we wait for the occurrence of general infection and lose valuable time.

Pyogenic Infection.—The investigations in serum-therapy as applied to the colon bacillus, anthrax, staphylococci, etc., are as yet not sufficiently tested to warrant more than their mention here. I shall therefore discuss only the work which has been done to counteract the evil effects of the streptococcus.

* Read before the Surgical Section of the American Medical Association, Philadelphia, June 3, 1897.

Marmorek,⁹ in 1895, produced a serum by successive inoculations of the horse with increasingly virulent cultures of the germs. This or similar serum has since been produced by numerous others, and a considerable number of cases have been recorded by various clinical experimenters in which this remedy has been used. It has been tried in the various forms of surgical infection, whether the source of the trouble was found to be due to the streptococcus or not, as, for example, in erysipelas,¹⁰ in puerperal fever,¹¹ in septic peritonitis, and in other general acute septic infections.

Chantemesse,¹⁰ in erysipelas, reports a marked diminution of the death-rate in those patients treated by the stronger serums, and has never noted ill effects. Delirium and the pulse were usually improved after the injections. Bolognesi¹² criticized Chantemesse, saying that it would be necessary to note the *type* of erysipelas (malignant or not) treated by the serum. It seems to me, however, that inasmuch as one would hardly accuse an investigator of picking out the milder cases for serotherapy, the difference in the death-rate with and without serum treatment in several hundred cases is worth noting and this even in view of the fact that Koch and Petruschky¹³ have not observed *immunity* from erysipelas after previous attacks or after inoculations with antistreptococcic serum. Merieux and Niemann¹⁴ say, however, that Petruschky used the wrong kind of serum in his experiments, and they maintain that good results in immunizing animals may be obtained by using another preparation. Aronson¹⁵ believes that the carbolic acid used ($\frac{1}{2}$ per cent.) to preserve Marmorek's serum gradually destroys the "antibodies" or substances which form the active principles of the serum, and that if a pure serum unmixed with carbolic acid be used it will immunize.

It would not be right for me to take up more of your time by proceeding further in this line. It is enough to say that investigators differ widely in their reports, and that experiments with serum-therapy in treating the human subject, whether for erysipelas or general infections of other kinds, vary so greatly in their results that we must be slow to form an unprejudiced opinion. In the meantime, all new cases should be recorded so that at some time in the future the evidence on which to base mature judgment may not be wanting. It must also be remembered that, after all, the streptococcus itself is not well understood. I need but say that Nocard¹⁶ has shown that of two equally malignant cultures, the one injected into a horse may be counteracted by Marmorek's serum, while the other is absolutely uninfluenced by it, to give you an idea of the great difficulty of forming a scientific opinion.

I shall, then, simply add my mite to the knowledge we have on this subject by recording here some clinical experiences with serum treatment in acute surgical infections, and I believe that, after all, the history of a personal success or failure is of practical value in influencing the line of treatment of others who may be confronted by similarly grave problems. Most of the cases here reported have not been published, but one or two which have been referred to or presented at the meetings of medical societies are sufficiently striking to be again brought forward.

CASE I.—This history, which was very lately published by Melloni of Rome,¹⁷ illustrates a class of cases in which the use of diphtheria antitoxin has been followed by cure, though no Klebs-Löffler bacilli were present. The disease was diagnosed as "hospital gangrene," and staphylococci and streptococci were found in the wound. It was a case of perineal abscess with urinary infiltration. Incision and drainage were followed by rapid and severe sloughing with the formation of "diphtheritic" membrane. There was high fever. Ten cubic centimeters of Behring's serum were given and the temperature rapidly fell. Another dose was administered followed by the rapid appearance of a demarcation line, and subsequent uneventful recovery.

CASE II.—This case occurred in the practice of Dr. R. Abrahams of New York. The patient was seen twice in consultation by Dr. Mundé. On February 15, 1897, six days after confinement by a midwife, the woman, a primipara twenty-six years old, was desperately ill. The abdomen was distended, the pulse rapid, the temperature 106° F. Involuntary urination and defecation were present, and there was a trace of albumin in the urine. A stinking, sloughy, "diphtheritic" membrane covered the raw surface of a complete laceration of the perineum, and a membrane was also seen on the palate and tonsils. There was, unfortunately, no bacteriologic examination, but the gentlemen in charge agreed that, clinically, it was not a case of true diphtheria. A single injection of No. 6, New York Board of Health diphtheria antitoxin was given, and was followed by a rise of temperature to 107° F., then by a fall of 1° per hour until the normal was reached. The patient fell into a sleep and recovery was rapid and unimpeded.

I am aware that the omission of a bacteriologic examination was unfortunate, but the case forms an interesting parallel with the first. T. J. Bokenham,¹⁸ in a discussion in England two years ago, noted that diphtheria antitoxin seems to act against streptococcic infection.

CASE III. is one of my own. It illustrates the use of antistreptococcic serum as a prophylactic. This use of the serum in cases where infection is to be expected had already presented itself to my mind when I read a report by W. Watson Cheyne,¹⁹ who says that in three cases of extensive operation about the mouth and throat previously treated with serum

there was a remarkably clean appearance during the healing of the wounded surfaces, with entire absence of the usual superficial sloughing. The breath, too, was remarkably free from odor. My patient was a woman about sixty-five years old, who had an epithelioma of the corner of the mouth requiring a wide extirpation. She received twelve cubic centimeters of Gibier's serum the day before operation and a like dose just before she took the anesthetic. Immediate healing was perfect, but a buried suture some days later formed a small abscess and came away. There was no constitutional disturbance at any time after the operation, even when the stitch came away.

CASE IV.—L. S., service of Dr. Gerster at Mt. Sinai Hospital. A girl of eighteen had violent general sepsis after an excision of the knee. No bacteriologic examination was made, but the general symptoms were most grave. There was stupor, rapid and weak pulse, fever, albuminuria, and icterus. A systolic murmur also appeared. She had seven injections of serum, eight to eleven cubic centimeters, and died March 6th, nineteen days after operation. The first injection of serum was not given until four days after the excision. The albuminuria *disappeared* and for a time her mind became clearer.

CASE V.—George G., aged fourteen, service of Dr. Gerster, the first patient to be treated with antistreptococcic serum at Mt. Sinai Hospital. This was on March 13, 1895. The boy had acute osteomyelitis of the femur, the tibia, and the jaw. His condition appeared hopeless, and two doses of the serum were given. Recovery followed.

CASE VI.—Bertha U., aged thirty-six, was operated upon by Dr. Van Arsdale at Mt. Sinai Hospital. She was intensely septic from an extensive gangrene of the gall-bladder, and it was thought that she would die. Collapse was so great that saline infusion was three times performed. She recovered after five injections of the serum. An improvement in the pulse was noted after the injections.

CASE VII.—Tillie M., aged twenty-one. Polyarthritis after puerperal sepsis. She was a patient of Dr. Gerster. She was not violently septic, but her condition was very wretched and she suffered intensely. She received five injections. A smart reaction followed the last one, with temperature 103° F. and pulse 140. Urine was negative throughout. Recovery.

CASE VIII.—Jacob W., aged twenty-five, patient of Dr. May at Mt. Sinai Hospital. Otitis media with possible brain abscess; acute sepsis; pleurisy. Two injections. Died.

CASE IX.—C. D. T., writer's case. Multiple bone tuberculosis; numerous operations. Four injections of Gibier's serum, six cubic centimeters each. There was no appreciable result. The patient eventually recovered.

CASE X.—R. B., aged thirty-three, was operated upon by me, May 3, 1897, for acute appendicitis. The abscess was accidentally ruptured into the peritoneal cavity. The cavity was not washed

out. She at once was given a *quasi* prophylactic injection of seven cubic centimeters of Gibier's serum. Recovery was uneventful. A culture from the abscess contents proved to be one of the colon bacillus.

CASE XI.—Boy of ten, with severe general septic peritonitis from a perforative appendicitis, had one dose of serum, but died a few hours after operation.

CASE XII.—This case is the last on my list and is, I believe, the most important. It is to my mind even more remarkable than the one reported by Ballance and Abbot²⁰ in which a physician suffering from fulminant general sepsis with hemorrhages recovered, apparently in consequence of treatment with antistreptococcic serum.

F. F., a girl eighteen years of age, and previously healthy, was attacked with severe osteomyelitis of the right femur. She had great pain, high temperature (104° F.) and rapid pulse, with slight icterus. On December 15, 1896, at Mount Sinai Hospital, just six days after the very first signs of the disease, I saw her and operated at once, exposing the marrow at the lower end of the shaft. The periosteum peeled easily from the bone, the bone cortex did not bleed, and the marrow seemed to contain too great an amount of free fat, but no pus was present. The wound was packed. After the first reaction of the operation, the temperature receded to 100.7° F. on the following day and the pain completely disappeared so that no opiate was required. The patient's mind, however, seemed a little dull and there was abdominal distension. The urine contained an excess of urates, but was of sufficient quantity. On the third day, December 17th, the maximum temperature was but 99.6° F., with pulse at 84, but more marked icterus and a distinct mental wandering. On the fourth day there was a frightfully rapid change for the worse, the patient becoming stuporous, and more icteric, with bile in the urine, *dilated pupils*, and rapid pulse. The wound was dressed. It looked "dirty," and an abscess was incised, under cocain, just above the quadriceps bursa. The pus, examined at once by Dr. Elsborg, assistant pathologist to the Hospital, was teeming with streptococci in very long chains. This dressing was done in the morning; during the afternoon the girl's condition became still worse, the urine contained a trace of albumin, the pupils became widely dilated and did not react to light, the stupor amounted to coma, and at intervals, especially when she was touched or in any way disturbed, she emitted a peculiar loud and piercing shriek. There was distension of the abdomen and vomiting. The urine had to be drawn by catheter, and afterward came involuntarily. The temperature was still but 100° F., but the pulse was small and irregular, 140 beats to the minute, in spite of the administration of digitalis; respiration 36. Later in the afternoon things became so much worse with such astonishing rapidity that the patient was considered moribund. I had asked Dr. Gerster to see her with me, to give counsel as to the advisability of a high amputation, but by the time we saw her Dr. Gerster considered her death within a few hours to be almost certain,

and believed that any operation would probably be terminated by her death on the table.

I then turned to streptococcic antitoxic serum as a last resort, and injected $12\frac{1}{2}$ c.c. of Gibier's preparation, following this by vigorous stimulation by the rectum and under the skin. Twenty-five minutes after the antitoxic injection some flushing of the face was noted. In three hours the patient received another injection of $12\frac{1}{2}$ c.c., and one-half hour later a distinct flushing of the face again was apparent. There was twitching of the right side of the mouth, and the shrieks of the patient were incessant, though she was unconscious, could not swallow and could not be aroused. Next day—December 19th—the only apparent change was rapid emaciation. The temperature, too, began to rise. The urine contained hyalogram granular casts. Two more injections were given. On December 20th the pulse-rate rose to 164 and was very feeble, and the temperature to 104° F. A loud pericardial murmur appeared, heard best at the base. Two more doses of serum were given.

For two days more the case went on in much the same fashion, the patient shrieking most of the time so that she disturbed the whole hospital, and breathing so frequently that the respirations could not be counted. Not until the evening of the 22d, five days from the onset of the severer symptoms, did she show the slightest real improvement. She then swallowed an ounce and a half of milk. On the following day, however, December 23d, after a short relapse, there was a distinct and rapid change for the better. Consciousness returned, there were two copious evacuations of the bowels without artificial aid, and nourishment was taken. The wounds now began to discharge and clean up. On December 24th a "diphtheritic" membrane appeared on the left side of the palate and uvula, other patches appearing on the buccal mucous membrane and on the lips. Cultures taken showed staphylococci and streptococci, but no Klebs-Löffler bacilli. Under local treatment the membrane was thrown off, leaving punched-out granulating areas which cicatrized. The pericardial murmur gradually vanished, and from this time recovery was rapid and unhindered.

It may be of interest to know that the father of my patient died a few years ago of septicemia following a glossitis caused by cutting his tongue in licking the flap of an envelope. She has a brother who lately has recovered from a malignant erysipelas starting in the nose.

In speaking of the apparent constitutional action of the serum, I would say that no distinct sign of improvement followed immediately upon any one injection, but for four days the patient's death was momentarily expected, so that I felt satisfied with the mere fact of her remaining alive. About 100 cubic centimeters of the serum in all were given. The blood was examined during the course of the disease by Dr. Mandlebaum, pathologist to the hospital, who reported no culture.

I beg you to note that I do not assert that this young girl was saved from certain death by the serum. I admit that she may even have recovered in spite of it; still, no man who saw her at her worst can help feeling that if he had to deal with a similar emergency the patient should have a chance for life with the serum rather than without it.

Recently I operated again on this same patient because of a sinus which developed at the site of the old scar with pain and fever. The serum was given a number of days before operation, with the result that her temperature fell from a daily maximum of about 100° F. to normal. Just before operation, $12\frac{1}{2}$ cubic centimeters were injected and the old scar widely opened. The discharge from the wound taken on the operating-table yielded a culture of staphylococci, but *no streptococci*. I removed a small sequestrum, and apparently having made a perfectly clean wound by the excision of the entire old tract and its cicatrix, I made an attempt to treat the wound by the Schede method of so-called organization of moist blood-clot. The experiment proved a failure, phlegmonous inflammation necessitating the removal of the sutures and the packing of the wound. It is interesting to note that now the discharge yielded a pure culture of streptococci. There were violent constitutional symptoms, with pulse-rate of 160, and temperatures to 104° F., but with absolutely no sign of cerebral disturbance. Convalescence was rapidly established. The local application of anti-streptococcic serum was once employed, and the wound surfaces certainly looked better the next day, but because of the ramifications of the wound tract this was discontinued since the experiment could not be satisfactorily carried out. It is my intention to try some other experiments with the local applications of the remedy.

Concluding, now, I will try to sum up the matter of serum-therapy in suppurative disease. To begin with, I believe that there is such a thing as immunity more or less complete from certain forms of suppuration. In Gould's "Year Book,"¹¹ under "General Surgery," I find an editorial note as follows: "On the face of it, it seems improbable that there is any such thing as immunity, natural or acquired, to pyogenic infection. So far as immunity to *all* kinds of pus-producing infection goes, there may be some truth in this statement, but when one remembers that in laboratories where antistreptococcic serum is made animals are unquestionably rendered immune to certain kinds of the most virulent pus-producing organisms, one is obliged to acknowledge that there is such a thing as immunity, and that in the future we may hope for an increasingly great degree of certainty in the use of immunizing agents in surgery. I believe

that the time is near when it will be common practice to make the attempt at immunization so far as possible immediately before surgical operations are undertaken, the period of immunity probably being very short."

As to the cure of cases in which sepsis already exists, it must be remembered that remarkable and unexpected recoveries are continually occurring, and that these recoveries are more apt to be published when they follow the administration of some new and fashionable drug or the application of some strange or sensational method. It is also, I fear, a fact that reports of many unsuccessful cases which might be very suggestive never see the light. We shall be obliged to wait until the mass of testimony is very great, perhaps even until the thing has been overdone and the pendulum begins to swing backward, before a true value can be placed upon serum-therapy in surgery. In the meantime, it is my opinion that the remedy is well worth trying, though never to the exclusion of what I may call legitimate surgical measures.

In no case which came under my observation have I noted any ill effect which could be ascribed to antistreptococcic serum, except, perhaps, an occasional smart urticaria. Indeed, in two of the cases here reported albuminuria disappeared, though this is one of the symptoms said to be caused by serum injections. It is well known, however, that evil has followed the use of antitoxin and of serum. Roger says that if filtered fluid is used the chance of accident is very slight. It seems that certain horses produce serum, the use of which may be followed by joint pains and swellings, adenopathy, enlargement of the spleen, purpura, anemia, nephritis, and other unfortunate sequelæ. It also seems as if death had in some instances been caused by the serum. The untoward effects are usually reported as having followed the injection of diphtheria antitoxin, but this observation may be due to the fact that the total number of cases treated for diphtheria is vastly larger than the number of cases treated for other septic disease. We must also distinguish, if possible, between the effect of the sepsis and that of the remedy. Yet, even if it be conceded that certain ill effects may occur, it means only that if serum-therapy is worth wider application the product must be further improved and its effects better understood.

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THE DESTINY OF VAGINAL HYSTERECTOMY FOR MALIGNANT DISEASES.¹

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SO FAR as this occasion is concerned, it matters not whether we accept Cohnheim's theory that "the only cells capable of originating neoplasms are those sequestered during embryonic life," or, with Williams, believe that "neoplasms are of intrinsic origin, due to a modification of the formative process by abnormal forces generated within the body, rather than extrinsic, due to inflammation or the intrusion of micro-organisms," or favor the more recent idea of the bacterial origin of all malignant growths. The fact confronts us that of all organs none is more prone to take on malignant degenerative processes than the uterus. Exposed as it is to so much irritation and injury incident to menstruation and mishaps in early girlhood, and those disturbing causes of mature womanhood—the marital relations and the traumatism resulting from childbirth, with constant irritating discharges setting up perverted cell action, it is not surprising that this nesting organ of all mankind should so often be the point of election for malignant degeneration.

The achievements of pelvic surgery by the vaginal route, with its immediate low mortality, has stimulated surgeons to extirpate the uterus for divers conditions, without, I fear, a just regard to ultimate results. Certainly in non-malignant conditions the removal by the vaginal route promises much in the way of completeness and lessened shock, for "benign tumors remain local, but the malignant types penetrate into the neighboring tissues and destroy them, and the tumor germs, being carried off in the blood and lymph, give rise to metastatic or secondary neoplasms in all parts of the system. Metastases have essentially the same structure as the primary tumors, and are found either in the vicinity

¹ Abstract of a paper read before the Section on Gynecology and Obstetrics at the Forty-eighth annual meeting of the American Medical Association, Philadelphia, June 2d, 1897.

of the latter, that is, in the region supplied by the lymph and blood which comes directly from the tumor, or in distant organs, after the tumor germs have passed through the heart. It is characteristic of tumor metastases, especially those from really malignant tumors, to go on growing indefinitely. Normal tissue germs do not have this peculiarity." (Tillman.)

Senn says: "Glandular carcinoma is followed at an early stage by regional infection. The lymphatic glands nearest the organ affected in the direction of the lymph current are usually involved first, when step by step, successive glands are implicated, until the entire chain of glands has become infected. Secondary tumors are subject to the same degenerative changes as the primary. The glandular tissue is completely removed in the lymphatic glands by the substitution of tumor tissue." He further speaks of "a wide zone of infiltration," and says that Virchow pointed this out several years ago, and that Waldeyer described it as an inflammatory zone, because he found in the connective tissue numerous small cells. "Infiltration tissue consists of leucocytes and young epithelial cells, which, like the leucocytes, wander by virtue of their ameboid movements into and along the connective-tissue spaces. Carcinoma of the alveolar type may develop within the cervical canal, and destroy the neck of the uterus before it is discovered, or in cancer of the body of the uterus, the cervix may become constricted, causing retention of the secretions (hydrometra), or the body of the uterus may be well nigh destroyed before the cervix is attacked." Lymphatic infection is found in the lumbar, retroperitoneal and inguinal glands. "Occasionally there may be found an isolated nodule of cancer higher up than the apparent edge of the disease. Whether this is due to lymphatic infection or to multiple cancer formation is an undecided question." (Warren.)

"Examination of the retroperitoneal lymphatic glands in suspected carcinoma of the uterus should never be neglected. In the great majority of cases the surgeon has to deal with carcinoma after regional infection has set in, and when the disease has advanced too far for a successful radical operation." (Senn.)

The last quoted authority also says: "The greatest progress in the treatment of carcinoma will have been made when we are placed in possession of an *infallible* means of early diagnosis." This was said in connection with carcinoma in general. Difficulties multiply when we consider carcinoma of the uterus, and there are no means of overcoming the obstacles presented. The hidden location of the

organ, the secretive and natural disinclination of women to communicate even to their nearest friends any suspicion entertained that all is not well are barriers which will require the education of many generations to remove. The average woman is so ignorant of her own organism that she is incapable of differentiating between the normal and the abnormal. She begins early in her womanhood to expect the "the change of life." Allured by the dangerous and false teachings of the mother who tells her that irregular flow is not uncommon, and that she must not be alarmed at this, or even at an offensive discharge, she keeps her secret, in blissful ignorance of the progressive degeneration which has overtaken her. When at last forced by failing strength and pallid cheek to consult her physician, the discovery is made that the diseased process has destroyed the cervix, that the lymphatic pelvic glands have become infected and that the broad ligaments and peri-uterine tissues have been invaded, and little hope of relief remains, either by palliative or radical measures.

Despite statistics (which too often are deceptive) showing many apparently permanent cures, on high authority we are forced to the conclusion that most cases of uterine cancer presented are inoperable, at least, by the vaginal route. With these discouraging conditions confronting us, and bearing in mind the limited field of operation, the accepted infectiousness of cancer tissue, and the possibility of the transference of living tumor cells during an operation, coupled with the impossibility of removing in many cases *all* of the diseased structure, we are forced to admit that the removal of the uterus per vaginam for malignant disease is, in the majority of cases, a doubtful expedient. Complete cures are rare, even when the carcinomata are extirpated very early in their course. As a rule, one recurrence follows another until the patient succumbs to general exhaustion.

Gross long ago claimed that in cases of malignant disease of the mammary gland it was absolutely essential to remove with the gland all of the axillary fat and lymphatics. In cancer of the uterus we have, in a great degree, a parallel condition to deal with, but the narrow vagina and the danger of invading other important organs and structures precludes the possibility of completely removing by the vaginal route all probable diseased tissue. In view of the opinions of some of the leaders in medical thought, we are compelled to look further for other and better methods of procedure in dealing with malignant disease of the uterus. It is probable that any plan of complete extirpation will be found inadequate in a large percentage of cases, but that

method which permits of the greatest opportunity for inspection of the diseased uterus, adnexa, and infected glands, and furnishes an opportunity for a more complete removal of all diseased structures, both primary and secondary, must ultimately become the operation of election.

The dexterity which has characterized American surgeons in abdominal section for the total removal of the uterus and appendages, leads to the belief that in the near future vaginal hysterectomy for malignant disease will be restricted to those rare cases in which women present themselves in the inception of the disease, and before secondary infection has taken place. It is the opinion of the writer that the more radical operation known as the Clark method will supersede vaginal hysterectomy for cancer. By this abdominal method of total extirpation of the uterus and adnexa the posterior peritoneum and all glands at the bifurcation of the iliac vessels are brought into view and removed whether infected or not. We are thus enabled to go beyond the inflammatory zone and to remove diseased glands which are not within reach by the vaginal route. The bladder, the ureters, the rectum and all other important structures are brought directly into the field of vision. Thus directed, the hand of the operator does thorough work, and the poor sufferer has done for her the best that the science and the art of surgery can offer. The objection urged against this operation—that it is tedious, that too long exposure results, that prolonged anesthesia endangers the patient's life—will all be overcome by that practice which makes perfect.

A STUDY OF THE SYMPTOMATOLOGY OF THE NEURASTHENIA IN WOMEN.

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THIS subject is considered on account of its important bearing upon almost all cases of disease occurring in women, but because neurasthenia is studied in this connection I would not have it inferred that men are less liable to its manifestations. To begin with, "neurasthenia" must be considered a condition, which only in a certain proportion of cases reaches the dignity of a separate disease. It has been of special interest to me because I have approached it from two standpoints which might almost be defined as negative and positive. I have studied it as a practitioner, devoted particularly to the cultivation of internal medicine, and on the other hand, as a worker in a very large neurologic clinic where neurasthenia naturally is a luxuriant growth.

Exhaustion, anemia, and poisoning of the nervous centers have been named as the three primary causes

of neurasthenia. Bossier of Paris regards it as an attenuated melancholia. We must never lose sight of the fact that the causes of the condition in most of our cases are concealed by the patient. Altogether too few cases in our experience are traced to causes which we are confident are actively operative. It is the rarest thing indeed for a woman to acknowledge the habitual excessive use of alcohol. The same is true of other drugs, and of vicious habits. Some investigators seem to be better able than others to discover the truth in these respects, but certainly the number recorded is suspiciously low. Some of the patients take their drugs in the form of a proprietary mixture with an innocent name, and are not conscious themselves of the cause of their nervous exhaustion.

It is probable that uterine disease is a comparatively unimportant element in the causation of neurasthenia. Much more frequently neurasthenia gives rise to uterine symptoms. The error of treating such cases as primary cases of pelvic disease, has been almost too often emphasized to make it necessary to dwell upon it at the present time. In neurasthenia from some cause the nervous system seems to suffer deterioration of power as a whole rather than develop a definite local lesion. Although no lesion is discoverable by any pathologic examination so far made, it is probable that there really is a failure of nutrition of the whole nervous system.

To the neurologist, neurasthenia as a diagnosis is too often a nosological dumping-ground for everything that is not clearly something else. There are a few fairly defined types that in spite of the surprising variations in surface symptoms will retain their identity. On account of this versatility of symptoms, we must in a definite way go deeper than merely sorting subjective sensations for a basis of classification. Just as the botanist lays down a certain fundamental basis for the classification of plants, and neglects color, size, and latitude in the application of a definite system, so in the classification of neurasthenia we must base our diagnosis upon the character, surroundings, and life history of the patient, just as much as upon the particular coloring or form of the disease at the time when observed. The practical advantage of this more fundamental study is that it suggests lines of management which will correct in a degree the primary cause of the disorder.

A typical case presenting itself for treatment shows a woman between the ages of twenty-five and fifty, fairly well nourished, somewhat anemic, who complains primarily of a subjective sensation of nervousness followed by a train of symptoms that is different in every case. Fairly constant is the complaint of pain in the top of the head, sleeplessness, loss of

appetite, and subjective sensation of tremulousness, but the most characteristic of all is the neurasthenic manner—the abnormal concentration of the attention upon symptoms—and their exaggeration. The patient delights in recounting the minutest details, and yet seems, in a sense, rather to enjoy a concealed happiness or pride in her condition. Neurasthenia is essentially a debility. Its importance to the individual is very great indeed. A confirmed neurasthenic is literally unable to stand the ordinary hardships of life. Of this the patient is thoroughly conscious, and is constantly seeking some explanation in the presence of some more definite disease.

A good synonym of neurasthenia is pathologic fatigue. The parallel of physiologic fatigue with neurasthenia is very close. The neurasthenic, however, is tired in the morning and feels better toward night. Curiously enough, an early stage of neurasthenia is marked by a lack of the sense of fatigue, which has been happily termed fatigue anesthesia. The danger of this condition is easily apparent, as the patient unconsciously goes beyond the limits of physiologic fatigue.

The existence of neurasthenia as a local disease has been suggested by Huchard of Paris under the term of local neurasthenia. With the number of manifestations of neurasthenia already on hand, it is rather cruel of Huchard to suggest another difficulty. If he deprives us of diagnosis by variability, we may well wonder what ground we have to stand upon. However, it is entirely improbable that neurasthenia would manifest itself in one direction alone for any length of time.

Neurasthenia varies much in type with age. The youngest cases verge into a type of acute simple anemia while the older cases approach the type of chronic diffuse nephritis. This may not have impressed others, but unconsciously I have found myself differentiating these various diseases in the younger and in the older group. Then there is the neuralgic type, usually differentiated from real neuralgia by the mobility and atypical location of the pain. Patients suffering from the nervous type complain most prominently of a general sensation of nervousness often described as "inward chills." The tendency in all forms is to exaggerate the symptoms, and one who is not on the lookout is often enough deceived. These patients come with a tale of constant abject misery lasting for a month at a time, of sleeplessness and absence of appetite, when, if you happen to observe them when going about their ordinary occupations, they show no evidence whatever of real suffering.

When we come to those patients in whom the element of nerve depression or nerve exhaustion

seems to be a more prominent factor in the case than any other disease, we may divide the patients into two classes—those in whom there is an accompanying physical disease, and those in whom the physique seems to be fairly good and the nervous system itself almost alone at fault. The latter are the more chronic cases, and often enough verge closely upon the domain of hysteria, or even insanity. The former class of cases are the typical ones, most frequently met with, and those of most interest to the general practitioner.

There is a class of border-line cases in which the patients suffer from pains in the limbs and body, such as may very well be due to rheumatism. Definite rules for differential diagnosis cannot be laid down. Each case must be studied by itself. There is no doubt, also, that many symptoms in middle-aged persons caused by gout are mistaken for neurasthenic symptoms by neurologists.

An interesting symptom is described by Grasset of Montpellier under the name of amyasthenia, which he describes as a sensation of sudden fatigue. The symptom of the sudden giving out of the knees in neurasthenics is familiar enough. This symptom can receive fresh interest from this very good name. Laziness is more often a real disease than is commonly imagined; it simply means in those cases diminished evolution of the higher nerve energy.

Like hysteria, though in a less degree, neurasthenia resembles or presents the symptoms of many organic conditions, but there is this difference: the hysteric person often gives a clear and distinct imitation, while neurasthenia presents, as it were, a wavering and shadowy picture of real disease.

The differentiation between neurasthenia and insanity is not difficult in actual practice. After organic disease has been eliminated from our diagnosis, as far as possible, in a large number of cases there remain more or less definite manifestations of nervous disorder. Neurasthenia, however, is a condition which cannot always be diagnosed by exclusion because it is a condition which may accompany almost any disease. The number of marked cases of neurasthenia is not very great. Its very long course and the persistency with which the patients seek medical advice makes the disease appear so common. The milder types on the contrary, are very frequently met with.

It is absurd to call neurasthenia "the American disease." No one can work in the large clinics and not be impressed by the existence of this condition among people of all nationalities. In fact, the worst cases we see are among foreigners. It is certain that among Russians, at least, the class of which we have such enormous numbers in New York, there are

found cases of neurasthenia which, in proportion to the organization of the patients, it would be hard to parallel.

The treatment of neurasthenia, like that of gout, must be summed up as an intelligent adaptation of well-known means to meet indications as they arise. It would, perhaps, be better to speak of management rather than treatment, as it covers hygiene and the control of the habits of life and thought, in addition to the administration of drugs. In the management of these individuals it is absolutely necessary to gain their confidence; and a great advantage is gained by having them understand to some degree the nature of their trouble. It has sometimes seemed useful to explain that the nervous system as a whole, the spinal cord, the nerves, and even the brain itself, is in an atonic state; that this debilitated organization is liable to be affected by the slightest causes, and that the symptoms will correspond to the sensation usually associated with stimulation of that part of the nervous system. Fortunately, many neurasthenic patients are people possessing mental power above the average, and when once they have been taught to corollate their many-sided symptoms with the general cause, and to disbelieve in the presence of constantly changing organic disease, they will have reached a much more hopeful plane from which treatment may be commenced.

A very trying feature in many cases is their chronicity. Many patients recover to a certain point so that they are fairly comfortable and are able to carry on their occupations, and yet they have not attained sufficient independence of mind to get along without medical supervision. These cases hang on in a physician's practice often for months and years. The physician feels from a strictly medical standpoint that he is no longer useful to such patients, but that the moral support derived from their occasional relation of symptoms is just as necessary to them as cod-liver oil to a consumptive, or nitroglycerin to a nephritic. Some of these patients persist in visiting a physician long after he has refused to give them any more medicine or treatment, and they talk themselves into a comfortable frame of mind and go away greatly benefited, there having been no treatment whatever. This moral support that neurasthenics demand is often very tiresome to one who is interested in pathologic conditions, but if the patient is treated with absolute honesty, it seems to be a legitimate part of one's medical work. These patients have put themselves under one's care for a condition that is just as much a disease of the mind as anemia is a disease of the blood. Physically, you have corrected, as far as you consider possible, the ailments that demanded drug treatment, and which

may have been the origin of the trouble, but the patient is left in a condition in which he is unconscious of his cure, or rather, in which the disease has been transferred to the mind. If, at this stage, we throw these people off, they invariably try all kinds of treatment, and are pretty sure to undergo medical or operative interference that will set up some new physical pathologic trouble. These patients must be accepted, and so long as they remain patients, must be given moral support. Some of these prolonged cases go on to complete recovery.

Thus, in that very severe and troublesome type, post-operative neurasthenia, we must labor to divert the channels of thought and erect a barrier of reason against any future idea of local disease—a task not made less difficult by the constant willingness of men devoted to pelvic medicine to continue an attempt to reach the base of the brain with the speculum and curette. These cases of post-gynecologic neurasthenia must, of course, be distinguished from essential organic disease only after a thorough examination by one especially trained in that department of work. To quote cases would only be to repeat the experience of every physician, but the subject has been newly impressed upon me by a recent experience with a patient in whom, after endless consideration of local disease, one eminent surgeon had removed the ovaries, and another later on had insisted that hysterectomy would be the only salvation, I finally concluded that the pain was chiefly of psychic origin and insisted upon her removal from bed and transference to the seashore. The result was more than the most sanguine person could have hoped for. The improvement was so great that the patient herself became convinced that her pain was not due to local disease, and agreed to discard treatment and resume, as far as possible, her ordinary life. The pain was much modified in character and frequency, and she is no longer a helpless invalid. Unless a diagnosis of neurasthenia had been made, she would still be under treatment for supposedly local lesions, thus adding misery to a condition bad enough in itself.

Of the gastro-enteric origin of neurasthenia, in certain rare instances, there can be little doubt, but the explanation does not cover the ground in a majority of the cases, and the expectation of curing such patients by some particular combination of drugs supposed to have an extraordinary antiseptic power, will lead to disappointment.

J. J. Putnam of Boston recommends the psychical treatment of neurasthenia, which consists chiefly in making the patient master the disease by exerting her reason and will. The wonderful results obtained by certain physicians are due to their personal influence upon the patient. The absence in the

American constitution of a craving for amusement, such as characterizes the French, for instance, leads to a neglect of sufficient recreation, and in that way exaggerates the results of overwork, and the tendency to neurasthenia. There has been a good deal of improvement in this respect since the use of the bicycle has become general, and since other outdoor recreations have become so popular, but the fact remains that in America we need to realize that recreation is essential to the performance of good work.

It is doubtful whether many diseases run their course without the neurasthenic element being more or less present, so the physician should estimate, discount, and treat it in every patient. I have a strong conviction of the importance of making such allowance for the neurasthenic element in all cases of disease of whatever nature; that it is necessary to realize in careful diagnosis that the patient herself under the influence of disease is capable of displaying an indefinite number of symptoms which have their origin, not in the disease, but in the patient under the stimulation of the disease. This is the case in many of the so-called reflex symptoms, that is, whenever disturbance of one organ is reflected from another in symptoms characteristic of the latter. In persons prone to neurasthenia, the whole nervous system reflects symptoms from any local stimulus, and on account of its variety of powers of giving rise to symptoms, the picture is a most confusing one. It is just as if a lamp were hung among a lot of mirrors. It is very difficult indeed to immediately pick out the lamp from among all its reflections. The immense importance of training in the objective examination of disease is here manifest; if we use our eyes alone we will be mistaken. A reflection of the lamp is seen, but the sense of touch immediately differentiates the warm lamp-shaped object from the cold, smooth surface of the mirror. Then again, if a shade be interposed between the lamp and the mirror the lamp retains its light, but the mirror loses its reflection. Or, if we move so that the line of reflection falls outside of our line of vision, the light from the lamp remains, but that from the mirror is lost. In the same way, in examining and testing the symptoms of patients, we can with care and thoughtfulness differentiate the real symptoms of the disease from the reflected symptoms of its accompanying neurasthenia.

Children Without Arms.—It is reported that a child without arms has been born recently at Laporte, Ind. It is strong and will live. This is the second child without arms born to the parents, the first being now three years of age.

THE INCREASING CONSUMPTION OF ACID FOODS AND DRINKS.¹

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It is attempted in this paper to establish the following principal points: (1) That there is an increasing consumption of acid foods and drinks; (2) that increasing demand for acids is fostered by the artificial customs and habits of modern life; (3) that the appetite so acquired and indulged is contrary to physiologic law.

The consumption of acid fruits and vegetables in recent years has been and is now promoted by the fact that these foods are procurable at all seasons—in the extreme cold of our winters as well as the heat of our summers. Obedient to the all-powerful dictum of the spirit of intellect, temperatures are modified and our soil yields the products of different climes at any season. The seductive influence of the presence of the product cannot be questioned. Add to this continuous supply the advantages of celerity of transportation, and the sequence is that very few of the vegetables and fruits hitherto regarded as natural summer products are absent from our tables in mid-winter.

It would be impossible within the scope of this paper to refer to the individual products concerned in the ever-increasing list of acid foods consumed in this country. Let a few suffice. Tomatoes, which depend for their flavor upon a peculiar acid (*acidum lycopersicum*), have rapidly grown in favor, until, from comparative obscurity, they have reached the head of the list. It has been estimated that during the years intervening since 1890 this vegetable has multiplied in production ten times.

Each week during 1885 it required twenty-five carloads of lemons to supply the city of New York. At the present time the daily demand exceeds that amount. This is true of other cities, and for the most part the country demand is proportionately augmented. Oranges are supplied in about the same relatively increased quantity. Limes are the most keenly acid of all fruits. Almost unknown outside the fashionable drinking halls five years ago, to-day they are a commodity. They are imported pickled as well as fresh, and the bottled juice comes to this country in large quantities from the West Indies. Congress has recently placed a special tax upon this fruit, because of its large importation. The grateful acid of the rhubarb leaf, in conjunction with binoxalate of potash, with the malic acid contained in gooseberries, currants, cherries, plums, apples, and pears, adds to the acidulous tide.

¹ Read before the Section on Physiology and Dietetics at the Forty-eighth Annual Meeting of the American Medical Association, Philadelphia, June 3, 1897.

Recently it was learned from a large commission merchant that apples, to be salable in our markets, must be decidedly acid. Sweet apples are employed only in making cider and vinegar. Some varieties of the small sweet fruit have almost disappeared, and their places have been filled by those that are tart enough to please the present acid taste. It is rare to find the mulberry, the black currant, the sweet cherry, or the sugar-grape. The almost innumerable grafted fruits, usually more acid than the seedlings, are extensively cultivated, and to the exclusion of the original stock.

It is claimed that the cheapness of sugar permits the consumption of acid fruits which otherwise would be distasteful. The ingenuity displayed in bringing acid into a condition to make it palatable serves to prove the increasing tenacity of the acid habit. Sweet and neutral vegetables, as beets, cabbage, lettuce, etc., are often rendered acid in order to give to them the much desired sour flavor. Forty thousand tons of cucumbers are raised and eaten within the limits of the United States each year, and this affords an excuse for the employment of about 1,000,000 gallons of vinegar and acid sauces or condiments. The large pickle factories that began with the decade have been reinforced by new establishments and additions that double their capacity for sending out acid products. The demand for piquant sauces has caused a large special industry to arise within the twelve years now ending. Meanwhile the home culinary department has augmented its capacity as to quantity and variety. A considerable amount of salicylic and boracic acid contributes to the preservation of fruits.

To visit the modern pie-bakery is to learn of human ingenuity employed in a most peculiar service. Boston boasts of a pie factory which turns out 1000 pies per hour, and the machinery seems to know its business better than the people who eat the pies know theirs. It is startling to hear of the remarkable pie-eating tendencies of the people of this country. A baker recently estimated that the American stomach is tortured weekly with 13,000,000 pies. Mineral and vegetable acids flavor the contents of eighty per cent. of these pies.

However formidable may appear the subject of acid consumption as already presented, the diabolic ingenuity of the *chef de cuisine* as he appears in public restaurants, hotels, clubs, railway dining-cars, steamers, etc., eclipses all. Wherever you dine—at Delmonico's, or at the humble restaurant where you can get three dishes for 25 cents—the foods are rarely of the alkaline character that nature intended. Especially is this so in the more pretentious dining-halls. From the tomato soup that is full of floating

sour and indigestible ornaments, and fish with sauce enough to constitute a dinner in itself, through the roast and to the final black coffee, there is a blend of an infinite variety of incompatible acids, flavors, and liquors. It is indeed the exception to find an ambitious caterer willing to serve an article before it has donned an acid habit. The natural flavor is so disguised that the palate of the connoisseur is taxed to recognize it.

Acid foods and drinks menace the urbanities and amenities of modern social life. A woman is to be commiserated who is invited to a *récherché* dinner of her social class, as furnished by the up-to-date caterer, if she has not the moral courage to decline. To attend such a dinner is to indulge in a feast of sours and a flow of acids from the first to the last service upon the *ménu*. If averse to acids, she nevertheless must yield a tranquil servitude and graciously accept the hospitality, or, by adopting the perilous liberty of declining some of the intricacies, brave the possibility of social ostracism. All the civil asceticisms of the nineteenth century may congregate on the *ménu* upon such an occasion, and yet may appear as a poem to the *chef de cuisine* and all others concerned. The modern fashionable women, anxious to outdo each other, are rendered not only somatically, but also psychologically, ascetic on the appearance of a brand-new, unexpected, and never-heard-of-before dish on their rival's table. Extraneously, it may have the appearance of perfection, but it will prove an incarnation of acidity and fermentative microbes. Never less than fifty incongruous elements combine on such occasions, with alarming disregard of consequences.

These dissipations are augmented on festive occasions. The learned ignorance of the *chef de cuisine* has its best opportunities at public places and at grand events. The chemist of the culinary department under such circumstances takes advantage of the chemist of the *prima via*. To all the acid inventions that can be placed upon the *ménu* are added the sherbets and the lemon and orange ices. The claret's purple tide mingles with the frolicsome vapors of champagne, in accordance with the wine-bibber's fancy. The punch-bowl, with its capacious supply of acid drink, has reappeared from comparative obscurity with an intensity of purpose that adds to the ascetic view. Beer, wine, or spirits join in the after-dinner tumult. The coffee cocktail and the Roman tea with spirits are among the most popular inventions of the enemy, and are regarded as heavenly twins by true Bohemians. But the list reaches out and defies limit, and whether the flavor be sweet or sour, there is hidden somewhere the acid ingredient, which will be recognized by the *prima*

via, even if it escape the observation of the senses. Thus, in all departments of social, private, and public life the *chef de cuisine* is making himself felt. Our own inclinations have been subjugated so that we require in one form or another in our homes some of these acid products or compounds.

Probably the first symptom of acid desire appears in the taste for the aerated table waters which are everywhere available. The realm of acid ingesta geometrically expands when we enter the domain of drinks. In the drinking-halls the casual observer cannot fail to be impressed with the tendency to indulge in acid beverages that are of recent origin, while those of more or less remote popularity still occupy their position as to quantity consumed. But if the question were asked to-day as to what is the national drink, it would be answered by the fizz of the soda fountain. We can all remember that only a few years ago the soda fountain was a rarity, and the variety on its list of drinks could be counted upon the fingers of one hand. To-day every hamlet and town in the country has them in numbers equal to their confectionery stores and apothecary shops. In the cities they are enthroned in every available locality, where hundreds hourly pay obeisance, and the variety of their flavors is only limited by the mental elasticity of the presiding genius. Foreign countries know little about the American soda fountain, but it increases the acid consumption one hundred fold in this country. The most profitable and largest part of the druggist's trade to-day is that of the product of the soda fountain. Mineral and vegetable sours contribute to the tide of acids which enter the stomach from this source. The carbonic-acid gas is swallowed and not inhaled. The late John Matthews of New York first introduced the idea of charging water with gas. This is supplied in immense tanks to the beer brewers to inflate their beer. The drums of compressed liquid gas for carbonating soda water are furnished and refilled by the brewers. In this and some other respects the soda fountain is a cross between the saloon and the restaurant. Small lunches are supplied at some soda counters, consisting of hot tomato and clam bouillons, beef tea, cocoa, chocolate, coffee, tea, ice-cream soda, cake, crackers, etc. The most common demand, however, is for the acid-flavored drinks, including mineral and vegetable acids, with water charged with carbonic-acid gas. Ice-cream soda has grown very popular within the past two years, and women and children throng about the soda counters during the summer to gratify the desire for this cool and acidulous drink. Bottled drinks of all kinds which are non-alcoholic are offered by the apothecaries and grocers, and have become

a large and recent adjunct to the acid-distributing trades.

Thus it appears that the vegetable products are prejudiced to the acid side. The culinary department adds its effective ingenuity to educate our tastes in the acid direction. Our drinks are rarely alkaline. All this obtains, too, in spite of the fact that acids are naturally rejected in early childhood, and only rendered tolerable or agreeable by acquired appetite. The increased consumption of acid foods and drinks cannot be accounted for by the increased population, for it is out of all proportion to its growth. Indeed, our population during the last decade has remained almost stationary, while the acid demand is increasing in geometric ratio each year. The consumption of acid foods has increased out of proportion to all other foods, and the amount of acid drinks ingested has doubled every year since 1890.

This extending and increasing appetite for acid foods and drinks is evidenced by the self-conscious need that many feel for anti-acids to counteract acidity of the stomach. Wherever sour drinks are sold there are also the anti-acid, as bicarbonate of soda, magnesia, etc., on hand for the accommodation of those who cannot uninterruptedly continue the acid pace. Again, medical men will admit that the trend of therapeutics is forced, however unconsciously, into the anti-acid and anti-fermentative realm. This is not only because of the introduction of sour acids, but is also due to the fact that the acid conditions favor the development of micro-organisms and promote fermentative conditions in the body. These micro-organisms are always more injurious in their effects than the acids that are used as foods and drinks.

The various modifications of the digestive function incident to the excessive use of acid foods and drinks are already with us, and the acidulous habits of the body mark a stage in civilization. These facts, stated in connection with the estimates above made, should satisfy all that the acid appetite fostered and gratified is contrary to physiologic law. It may further be argued, however, that the acids employed are not only unfavorable to proper digestion, but that they directly and indirectly modify the chemico-composition of the blood and bodily fluids, and must therefore seriously interfere with the somatic functions. It will be remembered that all the digestive acts are performed normally in the presence of alkaline media, except in the stomach. The normal percentage of hydrochloric acid in the stomach is one part to four thousand of stomach fluid, and this proportion of acid is sufficient to put an end to the alkaline action of the saliva on starchy foods. Another

duty devolving on the hydrochloric acid is to check organic fermentation and putrefactive changes by destroying the specific microbes by which they are induced. To accomplish its office in the most perfect manner possible, it must be carefully proportioned, for any excess or diminution, however slight, despoils it of its capacity and interferes with the succeeding digestive acts. The common habit of the American stomach is the sour or fermentative habit. At no time in the history of medicine has the stomach demanded such a generous special supervision as to-day, and in no country equal to our own. If the difficulties were limited to this organ, a thorough system of lavage and special treatment might terminate the trouble; but the succeeding acts of digestion are imperiled. Sufficient acids and ferments in the stomach continue to act upon the pancreatic juice and the bile to despoil them of their alkalinity and thus render their action of no effect upon a portion, if not all, of the food ingested. The intestinal juice is so decidedly alkaline that it will neutralize a large amount of acid before yielding up its alkalescence, but it is frequently compelled, as are the other fluids, to call upon the reserve alkaline elements of the body. Thus, not only the digestive fluids are depleted of their alkaline elements, but the alkaline bases and salts are reduced in the fluids and tissues of the economy. The ingestion of acids increases all alkaline secretion. Saliva, pancreatic juice, bile, and intestinal juice are all alkaline in their normal state. Nature has intended that the ingestion of food should increase alkalinity. After a wholesome meal of proper foods there is an increased alkalescence of all bodily fluids. The alkalinity of the blood is the measure of its germicidal capacity, and if it is normally alkaline it has the power of increasing immunity against infectious diseases.

Fodor says: "Rabbits, in whom either the blood is more highly alkaline or in whom the alkalinity increases under infection, offer greater resistance to anthrax bacilli than those rabbits whose blood is only slightly alkaline." Many authorities agree that the alkalescence of the blood prevents disease. Laboratory analyses and clinical observations are corroborative of this view. It is well established that reduced alkalescence of the blood-serum deprives it of its coagulating potency in proportion to the degree of alkalinity. The red blood-corpuscles contract in the blood-serum of reduced alkalescence. Under such conditions the blood deepens in color in the arteries. The cyanotic appearance of the surface of the body, and especially the purple hue imparted to the lips in many cases, may be accounted for by the condition of the corpuscles. Moreover, it must be remembered that the red blood-corpuscles are the

servants of the respiratory apparatus, and by this interference with their office there must be a reduction of the efficiency of the functions of respiration. The sympathetic nervous system is influenced by hyperacidity, and causes in turn a general functional derangement of the organs, notably the heart. The intellect is temporarily confused, and in some this confusion reaches out into incoherence of thought and action. The moral influence of these perturbed conditions of heart and mind extend to and pervert the imagination, and in extreme cases leave their permanent impress. The coexistence of somatic and psychologic asceticism can no longer be ignored.

CLINICAL MEMORANDA.

THE LOCAL USE OF HIGH TEMPERATURE WITH DRY HEAT IN THE TREATMENT OF RHEUMATOID AND OTHER DISEASES OF THE JOINTS AND TENDONS.

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IN the application of superheated air for the treatment of rheumatism and other diseases of the joints and tendons, my experience has been with the Tallerman-Sheffield apparatus as made in London. I had the apparatus in almost continuous use for seven or eight hours a day for about three months. A number of cases of rheumatoid arthritis were treated by it, though only four patients persevered beyond three or four treatments. Of these, Mrs. N., in whom the knee-joints were especially affected, received twenty-five *séances* of a full hour each. In the beginning of the treatment there was immediate relief, and until fifteen sittings had been given there was steady, though slow, improvement. After this there was a relapse and an increase of pain, so it is doubtful whether the woman was any better for the service.

Mrs. H., suffering from rheumatoid arthritis affecting the hands and knees, received twenty-seven treatments. During this time there were periods of apparently steady progress toward health, followed by rapid relapses. At the end of the treatment the knees were very much improved, though the hot applications had been made almost exclusively to the hands. The knuckle-joints were less swollen, and the hands more serviceable. Toward the end of the treatment the local hot-air baths produced immediate, and in some cases, alarming exhaustion. With the oncoming of hot weather it was evident that the general condition of the patient was made worse by the heat application.

Mrs. S. took eight treatments with some apparent benefit to the rheumatic joints, but marked increase of her debility. Mrs. McK. took eight treatments. At first there was some relief, but at the end of the course she appeared in nowise improved.

Of chronic rheumatism, not of the type of rheumatoid

arthritis, but resulting from acute attacks, one patient, Mr. C., received sixteen treatments. The joint affected was the knee. There was apparent softening of the adhesions, so that the false ankylosis was readily broken up, but this procedure was followed by great inflammation of the joints. The man finally discontinued the treatment because he did not believe he was obtaining any benefit. The results for good in this case must be considered doubtful.

In subacute rheumatism of the joints I have had experience with two cases. In one there was apparent cure after three treatments, but this was followed in two or three days by a violent relapse, for which the patient declined further treatment. One case of subacute rheumatism of the knee-joint, which had received no treatment before, rapidly recovered under the use of the hot-air bath and large doses of the salicylates and colchicum.

Of rheumatic neuritis, three cases were treated. In one, sciatica, such great aggravation of the symptoms followed the first treatment that it was impossible to get the patient near the apparatus again. In two cases of chronic type, four treatments were followed by great increase of pain. In one case, in which the nerves of the upper arm and the brachial plexus were involved, fourteen *séances* were followed by marked improvement, with increase of motion in the shoulder-joint and great improvement of the general condition. This patient, however, was also very carefully treated with counter-irritation, drugs, massage, etc., and it was not determined that pronounced good followed the use of the hot-air apparatus.

The results of the treatment with the hot-air bath in diseases of the joints themselves have not, in my experience, been sufficiently satisfactory to warrant the practitioner in urgently recommending patients to undergo the expense and difficulty of the treatments. It does not seem that the conscientious doctor can say more than that the remedy is perfectly safe and may be of service.

The fact that in my experience, and in that of others, the earlier treatments have been followed by an immediate acute paroxysm, would indicate that softening of deposits of urates, and consequent absorption of uric-acid into the system, may result. In most cases of chronic rheumatism, however, and especially of rheumatoid arthritis, as seen in this country at least, there is no distinct local deposit of urates. I have reason to believe that it is possible to affect the nutrition of the joints of the hand more than those of the feet; this fact, if indeed it be a fact, evidently being dependent upon the greater readiness with which a small joint can be superheated than can a large one. On the other hand, in cases of diseases affecting the tendons and ligaments, the results were very marked. In several cases of acute sprains the effects were immediate and pronounced. In one case of chronic inflammation following sprain of the soft parts of the ankle which had entirely disabled the patient for nine months in spite of careful medical treatment, complete restoration was obtained after six of the hot-air treatments. In two cases of disabling tenosynovitis in baseball pitchers, there was immediate relief of the pain produced by moving the arm, and a very few treatments

enabled the men to resume work. In one case of long-continued contraction of the wrist tendons and general distortion of the fingers, diagnosed by Dr. Weir Mitchell to be the result of gout, three treatments were followed by complete cure.

In using the apparatus, it was found that if the limb was lightly enveloped in patent lint, a temperature of 330° F. could easily be borne by most patients. We tried all temperatures in these treatments, but finally settled upon one ranging between 270° and 320° F. Of course, any carelessness in the use of the apparatus was liable to result in the production of severe burns, but those which occurred in my office were all at a lower temperature, and in the first use of the machine before the nurse had become thoroughly acquainted with the application of the remedy.

In my opinion, the local, hot, dry-air bath is of little value in rheumatoid arthritis; it has probably a field of usefulness in subacute gouty inflammations with deposits about tendons and their sheaths, or parts outside of joints, and is of great service in the treatment of ligamentous inflammations, and in tenosynovitis, whether of rheumatic or traumatic origin.

When the patient is heavily wrapped in blankets, it is possible to raise the general temperature several degrees as shown by the free sweating thus produced. The local bath is capable, without doubt, of relieving subacute or even acute lumbago and other forms of rheumatism in very much the same way that the free sweating by the general hot-air or water bath brings relief. There is not the slightest reason for believing, however, that the method acquires any further constitutional influence than has just been spoken of, and it seems an absurdity to suppose that it will distinctly affect the rheumatic diathesis, or in any other way prevent the recurrence of those relapses which in rheumatoid arthritis and chronic rheumatism are the destructive factor of the disease.

A CASE OF EXOPHTHALMIC GOITER IN WHICH, OWING TO PANOPHTHALMITIS, THE ENUCLEATION OF BOTH EYES IN SUCCESSION BECAME IMPERATIVE.¹

BY JAMES A. SPALDING, M.D.,
OF PORTLAND, MAINE.

UP to April, 1895, Mr. A., a Dane by birth, had been perfectly healthy. He was then about thirty years of age and a hard-working and industrious farmer. On the 10th of April he had been working harder than usual, when he suddenly felt dizzy, and every object that his glance embraced appeared double. The lateral separation of the images was quite considerable, but he was sure that they were on the same level. On covering his eyes in succession, to discover if there was any difference in the sight which would account for the disagreeable diplopia, he found that the sight of the right eye was slightly blurred. On covering the right eye, he failed to see double, and the dizziness ceased. On covering the left

¹ Read at the Thirty-third Annual Meeting of the American Ophthalmological Society, Washington, D.C., May 5, 1897.

eye and trying to move about he felt nearly as dizzy as with both eyes open. He consulted his family physician, who sent him to an ophthalmic surgeon, who diagnosed paralysis of the internus muscle (as I later heard), prescribed iodid of soda, and directed the patient to wear a shade over the right eye to prevent the very annoying diplopia. A weak astringent lotion was also ordered on account of a well-marked inflammation of the lower conjunctival fold.

A few weeks later, the right eye, which previously had not projected in the least, began to bulge forward quite noticeably, but the diplopia was not so disturbing as before, since at about the same time the sight of this eye sensibly diminished. After undergoing treatment with the galvanic current the patient was told by the consulting oculist that nothing more could be done for the eye, and was advised to see his family physician, owing to other symptoms needing medical treatment. Enlargement of the thyroid on the right side was now quite evident.

The medical treatment then instituted, whatever it may have been, did not seem to be of much benefit to the patient's health, for the thyroiditis, with increased heart action, and protrusion and deviation outward of the right eye still persisted. The cornea, also, according to the patient's assertions, now became so gray and hazy that the sight was reduced to a minimum, although he could still see objects held close to the eye. The sight of the left eye remained perfect. Whether at this time the left eye protruded or not is impossible to say, but so far as could be determined it remained in its normal position. The difficulty in forming an opinion in this respect lay in the fact that the protrusion of the right eye was so great as completely to throw into the shade any displacement of the left eye.

Having been several months under treatment, without any benefit, Mr. A. consulted me in August, when I discovered the following conditions: The right eye was enormously protruded from the orbit, and the eyelids so much distended over the cornea as to remain immovable, despite every effort to close them. There was excessive chemosis of the conjunctiva, which surrounded the entire cornea with a dry, fleshy wall, as nearly as can be described. The cornea was very much dessicated, and in the center there was a small abscess. Hypopyon also was present. Oblique illumination seemed to show that the pupil was largely dilated, but this was difficult to determine with any accuracy owing to the haziness of the cornea. The cornea was quite insensible to touch. There was perception of light in all directions. The tension of the eyeball was increased.¹

The patient had been suffering for several days from intense pain in the eye and orbit. He could not sleep without the exhibition of large doses of narcotics, and the latter were contraindicated by his bodily condition. His

temperature was more than 100° F. night and day, and the pulse ranged from 130 to 160. The eye resembling one affected with panophthalmitis, and being rather timid about enucleating in that condition, I resorted to leeches to the temple, to scarification of the conjunctival folds, and to division of the external canthus. Finally, however, all these means failing to relieve the condition of pain and suffering, the eye was removed. On opening it, immediately after the operation, pus was found in the anterior chamber, as well as behind the ciliary processes on the temporal side, and in one separate focus in the vitreous, just as we see it in panophthalmitis following perforating injuries of the globe.

The result was very favorable, and the patient soon returned to his home. Careful examination before his departure showed well-marked swelling of the thyroid, on the right side chiefly, though moderate indeed in proportion to the enormous protrusion of the orbital tissues, which even after the removal of the eye pressed far between the commissure of the eyelids, preventing any attempt to close them except by actual force. The whole orbit remained then, and still remains, filled with hard, brawny tissue.

Thyroid extract was administered in small and regular doses for a long time, and being well borne was continued, with the result of somewhat reducing the swelling of the thyroid. Three or four weeks later slight conjunctivitis was noticed in the lower fold of the left eye, but it disappeared after using a mild boric-acid lotion. There was no protrusion of this eye. The pulse remained about as before, but there was no rise in temperature above normal. Through the early winter the eye remained in excellent condition, and the sight was perfect.

On the 9th of January, 1896, and without previous warning, except the occurrence of slight pain in the temple the night before, the left eye became irritated and the sight affected. I saw the patient the same day and observed well-marked chemosis of the lower conjunctival fold, and protrusion of the eyeball forward and a trifle upward, but the media were still transparent. The ophthalmoscope revealed nothing but extremely tortuous retinal veins. In a day or two very marked optic papillitis set in, the papillæ rising high above the level of the rest of the retina and the retinal vessels becoming even more tortuous than before. The sight rapidly decreased, due not only to this condition of the optic nerve but to haziness and then to absolute necrosis of the cornea. In ten days the appearance of this eye resembled that of its former partner, and sight was reduced to perception of light. Furthermore, persistent pain ensued in the temples and orbit, and soon became unendurable except after using sedatives. Cocain seemed for a day or two to keep the cornea moist, but when that effect ceased clothes soaked in albolene were employed. The lids, it is hardly necessary to say, could no longer be closed over the cornea owing to the extreme protrusion of the globe.

At this time, with a rise in temperature to 103° F., and the pulse more rapid than ever, there seemed to be no recourse except enucleation, though naturally we wished to give the poor sufferer every chance to retain

¹ I notice in consultation with younger men, nowadays, that they talk a great deal about "tension." They say, for instance, "There is tension in that eye." I think, and I always say so at such times, that we ought to cling to the old-fashioned limitations of the word "tension," and say "increased tension," or "diminished tension," for every eyeball, no matter how soft, has some tension or it would collapse *in toto*. To say that an eye has "tension" does not convey an accurate idea of the condition.

some sight. One suggestion was to evacuate any pus that was present in the orbit, but the condition of the tissues in the opposite orbit, still hard and stiff months after enucleation, showed us how hopeless such a procedure would be as it might subject the patient to two operations if no pus was discovered. There was no corneal abscess present, as in the other eye, and as I thought the cornea might perhaps be cleared by some treatment or operation to me then unknown, I consulted all available authorities for similar cases. The only case resembling mine was found in Mooren's "Fuenf Lustren," a book containing innumerable clinical observations, which are often of great value to the ophthalmic surgeon when he is in doubt. The case of Mooren's was that of a woman who for many months had been overwhelmed with mental anxiety arising from the care of a paralytic sister and an aged and feeble father, who was subject to frequent attacks of angina pectoris. The increased action of the heart in this woman was at first attributed to her mental overwork, and the injection of the lower conjunctival fold to a slight conjunctivitis, but after awhile it became plain that the eyeballs were gradually being protruded. Gray infiltration of the cornea soon set in, first in one eye, and then in the other. A week later Mooren was called in, hastily, only to find that during the night the left eye had burst open after violent pain, and on removing the improvised bandages he found the transparent lens lying between the lids, while the vitreous protruded from a large gap in the cornea. The corneal infiltration in the right eye persisted for months, and the slight perception of light gradually increased. After nearly a year of waiting and treatment, an iridectomy was performed, and the patient could see sufficiently to count her own fingers close to her face, but soon again the sight was reduced to mere perception of light. This, then, the only accessible report of a case, did not offer much encouragement for my patient.

While still considering what was best to be done, the corneal infiltration assumed a purulent form, with rapid hypopyon and with the occurrence of a perforating ulcer of the cornea. Finally, a day or two later, the patient insisted that the eye should be removed as he was obliged to confess his utter sightlessness, and he was unwilling to endure such constant pain and suffering. The operation was very difficult, owing to the infiltration of the orbital tissues, and I had to proceed very slowly, the scissors appearing to have no cutting power, though apparently sharp enough in ordinary enucleations. Well-marked purulent choroiditis was discovered on opening the globe. The optic nerve was swollen for some distance behind the globe, the swelling extending into the orbital tissues.

The patient was soon discharged, without any unfavorable symptoms, and is now in even better condition, physically, than when I last saw him one year ago. He still uses the thyroid extract in five-grain doses from time to time for a period of a month or two, and attributes his good health to that form of medication. The thyroid gland is now but little swollen.

A brief résumé of this interesting case shows us, judging from the ophthalmoscopic examination of the left eye

before the cornea became infiltrated, that with the enlargement of the thyroid gland, almost exclusively on the right side of the neck, first the orbital tissues of the right side and then on the left became inflamed and engorged, causing optic neuritis and gradual obstruction of the nutrition of the eyeball. This obstruction occurred first in the optic nerve, then in the anterior portion of the globe, and then extended to the cornea, which desiccated and sloughed. The consequent purulent infiltration of this tissue and occurrence of an ulcer finally excited a typical choroiditis purulenta or panophthalmitis. Finally, the case shows that with proper aseptic precautions, eyeballs affected with panophthalmitis can safely be removed.

SPECIAL ARTICLE.

INSANITY FROM PRISON CONFINEMENT.

By M. V. BALL, M.D.,
OF PHILADELPHIA:

FORMERLY PHYSICIAN TO THE EASTERN PENITENTIARY OF PENNSYLVANIA.

WITH the exception of a few South American prisons, solitary confinement is not in use in any prison in the world. Wherever the so-called cellular imprisonment is in vogue, the convict is not only permitted to see his relations, prison officials, officials of prison societies, etc., but he is allowed to read, to write letters, and to take exercise. In the Eastern Penitentiary of Pennsylvania, of which so much has recently been written and which is now under investigation, solitary confinement has not been practised for the last fifty years at least. And separate confinement has not been possible for the last twenty years (by separate confinement is meant the isolation of the prisoner from his fellow-prisoners). Because of the limited number of cells two and even more prisoners have been obliged to occupy one cell, and only when a convict has been imprisoned for sodomy, or has showed symptoms of insanity, has he been placed in a cell by himself. Under such circumstances it is impossible to say that the system of solitary confinement produces insanity, since that method of correction is practically nowhere in use, but time and time again charges have been brought against the Eastern Penitentiary inspectors to the effect that their system is productive of more insanity than the so-called congregate system. What are the facts?

It is well known that the majority of the convicts that become insane in prisons are persons who have committed serious crimes such as rape, incest, and manslaughter, crimes against the person rather than against property. For such crimes long sentences are usually received. Thus twenty-one insane and imbecile prisoners received into the Eastern Penitentiary during one year (June, 1894, to June, 1895) had an average sentence of three years and eight months, while the average sentence for the convicts generally was not more than two years and five months. Among these twenty-one convicts were several whose term of sentence ranged from five to fourteen years. Another, not included in this list, was serving out a life sentence. While, on an average, twenty-seven per cent. of the general prison population is committed for crimes

against the person, in this instance thirty-six per cent. of the insane persons were sentenced for this reason. It follows, therefore, that if insane convicts are not transferred to regular insane asylums the number in the prisons will constantly increase even if the annual commitment remains the same.

I contend that most of the cases of insanity found in prisons are not the result of confinement but rather the cause of imprisonment; that the insanity is largely responsible for the criminal actions of the particular individuals, and that the judges of the courts have either not recognized the unsound mentality or, recognizing it, have refused to take it into account. One judge, sitting in Philadelphia, gave it as his opinion that because a prisoner was insane "there was all the more reason for hanging him."

The managers of the Eastern Penitentiary have hitherto paid little if any heed to the insane convicts committed to their care. The warden, a man brought up and schooled by Richard Vaux, whose contempt for science and modern ideas was well-known, is inclined to consider a person "inherently depraved" who is not amenable to ordinary reason. In his table of causes of crime, which was compiled by Vaux, we find that of the 22 men spoken of above, the warden has set down the insanity of 3 as due to inherent depravity, 2 to physical disease, 2 to moral weakness, 2 to family influences, 4 to faulty administration of the law, 4 to evil association, and 3 to idleness. For instance, in the case of an Italian who was undoubtedly insane upon admission and who was sentenced for assault and attempt to commit rape, the warden considered his crime as having been due to "too much license and no repressive means to control self-will in the young!" Another man who was sentenced to fourteen years for committing rape, and who had attempted suicide in the county jail, and showed symptoms of acute dementia shortly after his reception, the warden considered "weak in moral power!" A third man, who was insane when admitted and who had committed a murder and received a life sentence as there was doubt as to his mental condition, the warden thinks committed the crime because of "laxity in the administration of the law!"

A man who commits a crime may be sane or insane; if insane he cannot legally be tried for crime; he is not responsible and therefore not culpable. If, unfortunately, his insanity is discovered only after his trial, as very often happens, then he has been tried unjustly and the brand of convict should be removed by law. If he is not a convict, why should he be placed in an asylum for *criminals*?

In my experience in the Eastern Penitentiary it did not happen more than twice or three times during a year that a prisoner who was perfectly sane on entrance (according to our record) and without an insane tendency, became insane during confinement. For these few cases of insanity space can be found in a separate ward in any State asylum. It is a disgrace to the civilization of the present age to imprison the insane, the feeble-minded, and the imbecile as convicts for a definite period, and then after the expiration of their sentence to set them free without let or hindrance, allowing them to commit fresh deeds of

violence and to be again sent to prison for another term of years. I have known of a chronic paranoiac being sentenced to the Eastern Penitentiary six times in the course of eight years for deeds which were clearly the result of his mental infirmity, and my remonstrance against such a procedure was not encouraged by the authorities but rather opposed. I have known of an imbecile boy receiving a sentence of fifteen years for setting a barn on fire, and his knowledge of the right and wrong of his action was no more than that of a two-months-old baby.

The courts are primarily to blame for this state of affairs, but a wise and intelligent prison management should be more anxious to make known this fault and should urge some action to prevent its occurrence. The medical profession is also to blame since because of the confusion that exists in connection with the acceptance of expert testimony the public has been inclined to ignore the findings of alienists and to allow men to go to prison who are fit subjects for asylums. It seems to me that it is necessary for the judges and medical experts to come to some definite understanding in regard to insanity and what constitutes culpability before the insane convict question can be settled.

MEDICAL PROGRESS.

The Results of the Medical Treatment of Perityphlitis.—

KLEINWACHTER has published in *Mitteil. aus d. Grenz. gebieten d. Med. u. Chir.*, Bd. I., p. 717, an interesting article describing the results of treatment without operation of 147 cases of perityphlitis admitted into the medical clinic of Breslau from 1874 to 1889. The object of treatment was to obtain complete relaxation and quiet of the intestinal tract in order to favor the formation of adhesions. The patient was immediately put to bed, and was not allowed to move for any purpose whatsoever. Opium was given, and the diet was strictly regulated. In the beginning of the disease, ice bags were laid upon the abdomen, and later these were followed by warm poultices. Fifteen to twenty drops of tincture of opium were given in the beginning of the illness, and from eight to twenty drops three or four times daily as long as there was pain or distention of the abdomen. No cathartic was given, even if there was no movement of the bowels for from seven to nine days.

A more exact classification of these cases shows that there were 115 of them to which the name perityphlitis would still be given (in Breslau). Of these, 101 patients, or eighty-eight per cent., were discharged cured; twelve, or ten per cent. were improved, while only two, or not quite two per cent., died. In twenty-four per cent. of the cases which could be followed, there was a recurrence, and this occurred almost invariably in less than two years.

This mortality ought really to be given as higher than it is, as the 147 cases include fifteen of peritonitis resulting from perforation of the vermiform appendix, with six deaths. There were also nine cases of perityphlitis, without a death, which gives a mortality for the whole series of about fifty-five per cent.

Hereditary Continuous Shedding of the Finger-Nails.—

In the *Journal of Cutaneous and Genito-Urinary Diseases*, June, 1897, MONTGOMERY mentions a case of constant shedding of the finger-nails occurring in a healthy, well-formed Frenchman. The patient's mother and two maternal uncles were likewise affected. Other relatives had bad nails but none were affected in exactly the same way. In his case, some two or more nails were constantly loosening, a process taking three months to become complete, and not accompanied by any pain. The new nails were in every respect normal. An affected nail grew dull and yellowish-white just over the lunula, and then lifted away from the nail-bed from behind forward until it was completely separated.

An Epidemic of Mastitis.—In the *Zeit. f. Geburt. und Gynäkol.*, Bd. xxxvi, p. 473, FREUND describes a moderate epidemic of mastitis which occurred in one of the wards at the Lying-In Hospital in Strasburg. All of the six patients in this ward were affected within seventeen days. The cause of infection at first was not clear. One of the women entered the hospital with an abscess already formed. In another instance, it seemed plain that the abscess of the breast was set up by a nursing infant whose mouth was in bad condition, as it contained aphthous patches and abundant staphylococci. The origin of the other cases was not clearly determined. Direct contact seemed to be disproved, and the writer was of the opinion that the germs were carried from one patient to another by the air.

A New Method of Sterilizing Water.—SCHUMBURG (*Deutsch Med. Woch.*, No. 10, 1897) describes a new method of sterilizing water by the use of bromin, one grain being sufficient to destroy all the bacteria in one quart of water, the bromin afterward being neutralized by ammonia so that a clear and tasteless water is obtained. For this purpose, a twenty-per-cent. solution of bromobromid (bromid, one part; bromin, one part; water, five parts) is used. Thirty minims of this solution are sufficient to sterilize in five minutes one quart of river water. If the water is very hard or very foul the lime salts and the ammonia contained in it neutralize a part of the bromin, and in such cases it is necessary to add the bromin solution until a faint yellow color is obtained and persists for at least half a minute. An equal quantity of a nine-per-cent. solution of ammonia suffices to neutralize the free bromin. It is desirable that these amounts should exactly correspond, although a faint taste either of bromin or of ammonia is not objectionable. When the bromin is exactly neutralized, the water is clear and can scarcely be distinguished from the original water, while the amount of bromin salt which it contains is so small that it has no effect upon the system. This method bids likely to be of especial use in times of epidemic, in war, etc.

The Percentage of Astigmatic Eyes in School Children.—STEIGER (*Corres. Bl. f. Schw. Aerzte*, May 15, 1897) found that of about twenty thousand eyes of children in the primary classes in the schools of Zurich, 1570 were more or less defective. About one-half of these, or 777,

were astigmatic. In some of these the affection was light, but in 662 it was described as considerable, while in 318 it was marked.

Muscular Paradox in Hysteria.—By the term "muscular paradox" ALDRICH (*Cleveland Med. Gaz.*, May, 1897) refers to the apparent inconsistency in the use of certain muscles often shown in hysteria. Thus a man, who while lying in bed can use all of his muscles with quickness and power, may perhaps be unable to use them at all while on his feet. A singular illustration will suffice to show the means used to detect this muscular paradox. Requesting the patient to keep his leg rigidly extended, the examiner grasps the ankles with one hand, while the other is placed in the popliteal space, and the amount of force required to flex is noted. Next, with the hands in the same position as before, but with the leg at an angle of 90° to the thigh, the patient is requested to extend the leg, and the examiner observes the muscular force required to prevent it. Though in these two tests the normal contraction of a single muscle is involved, yet the examiner may find that the resistance necessary to overcome this contraction is in one case perhaps double what it is in the other. Other muscles are to be tested in a similar method.

Actinomycosis of the Face—Recovery.—In *La Presse Medicale* for May, 1897, DUGUET reports a case of actinomycosis which involved extensively the cheek and lower jaw of the right side, in which complete cure was obtained in six months by the administration of large doses of the iodid of potash internally and the application externally, morning and night, of tincture of iodine and glycerin in the proportion of one to four. The patient, in the beginning, took one gram (fifteen grains) of the iodid of potash, which was rapidly increased to five a day without any disturbance of the stomach or the production of any symptom of iodism. Improvement was noticed very early, and gradually the doses of iodine were diminished to two grams (thirty grains) a day. The article is accompanied by colored plates which demonstrate that the cure was complete.

Relief of Thirst in Persistent Vomiting.—In the *British Medical Journal*, April 3, 1897, HARDMAN tells of a case of persistent vomiting in which nutritive enemata had been given for over two weeks. Nothing, either solid or liquid, could be retained on the stomach, and the patient complained bitterly of thirst. For three successive days from forty-five to fifty ounces of sterilized normal salt solution was injected into the cellular tissue of the abdomen and flanks. The patient experienced great relief of thirst, and the general condition was so much improved that an exploratory laparotomy was performed, but this unfortunately revealed a hopeless condition of things. Each saline injection was followed by only a little soreness, and the fluid was completely absorbed in twenty-four hours. From his experience with this case, Hardman is of the opinion that a quart of water might be injected each day into one of the four quadrants of the abdomen, and that by the time the fourth quadrant was used for injection the first would again be available.

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A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

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No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK.

Subscription Price, including postage in U. S. and Canada.

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SINGLE COPIES10
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SATURDAY, JULY 17, 1897.

THE BILL BEFORE CONGRESS ABOLISHING ANIMAL EXPERIMENTATION IN THE DISTRICT OF COLUMBIA.

THE editorial under this caption which appeared in the MEDICAL NEWS of July 3d has called forth some criticism from Dr. Leffingwell, which is published in another column. In his closing remarks, the doctor affirms that some of the objectionable features of the bill have been entirely eliminated and do not appear as it was reported to the Senate. The doctor regrets that these improvements in the bill, for which he takes to himself some credit, and which, undoubtedly, is justly due him, are "so widely unknown or so frequently overlooked." In this way he very courteously attempts to explain, on behalf of the NEWS, what he claims are misstatements of facts. We beg leave to assure the doctor, however, that the latest revised edition of the bill was before the editor when he penned the editorial in question, and while he recognized the improvement which the bill had undergone, the strictures made upon it are still pertinent, and the opinions there expressed will be the convictions of anyone who will carefully read the revised bill both literally and between the lines.

The alleged misstatements of facts are placed under three heads: The writer denies (1) that the practical effect of the bill would be to prevent all animal experimentation in the District of Columbia; (2) that the Humane Society of Washington is endeavoring to usurp to itself the power of controlling all animal experimentation, and (3) that the cruelties are not imaginary.

If we look into the history of this measure, we find that it originated in the Antivivisection Committee of the Washington Humane Society, and in the various discussions which have followed its presentation it has been particularly asserted that its passage is desired as much for its influence as a *precedent for State legislatures as for its direct effect in the District*. Moreover, in its original draft, inspectors were to be appointed from among the officers of this society. Even now, in its revised form, the bill takes the authoritative supervision of this important scientific work out of the hands of the proper authorities and places it under the direction and control of the political officials of the District. These local officials would necessarily be more or less under the influence of their fellow townsmen and townswomen and reflect in their official acts, the latter's sentiments and desires.

Had there been evidence that instances of cruelty to animals had existed in the District of Columbia, the vigilance committee of this Washington Humane Society would have been able to secure it and present it in answer to the challenge given them for proof of their allegations. In regard to this matter the Secretary of the Department of Agriculture, Mr. James Wilson, in presenting his objections to the bill as it now appears, says:

"It is not shown that there have been any cruel experiments performed in the District of Columbia, or that any such experiments are now in progress, or that there are likely to be any experiments of this character in the near future. The only allegation of such cruelty having been perpetrated was contained in a letter from Dr. A. L. Rauterberg in reference to mutilations of a dumb animal which he had seen in the Army Medical Museum. His statement is indefinite and does not specify the time, the species of animal operated upon, or the person perpetrating the cruel act. The records show that Dr. Rauterberg was at one time employed in the Army Medical Museum in a clerical capacity, and that he has not been connected with that institution for twenty-three years.

Responsible medical officers connected with the museum testify that there have been no painful experiments performed there since 1870, or, so far as they have been informed, previous to that time. Need I say it would not be wise to pass legislation, which may retard science and interrupt investigations now in progress and necessary for the control of disease costing our farmers many millions of dollars annually, upon this inconclusive evidence as to something which is alleged to have occurred in the Army Medical Museum a quarter of a century ago."

As all charges of cruelty have therefore been disproved, it does not seem at all irrational to use the term "imaginary cruelties" in reference to these allegations.

The proposed legislation is unnecessary; the Government laboratories are under proper official supervision, and the laws of the District now in force are amply sufficient to prevent cruelty to animals. This effort to obtain legislation in the District of Columbia by the Congress of the United States is not based upon any evidence relating to abuses in this District, but is being urged by the members of the Washington Humane Society, who have become excited by reading the antivivisection literature sent to them by Dr. Leffingwell and his friends in Massachusetts, who having failed to secure legislation in that State have transferred their field of action to the Capital of the Nation, where they knew in advance that they had a friend in a prominent member of the Committee on the District of Columbia in the United States Senate.

Now, let us consider the main point of the discussion at issue, which is the effect of the bill upon animal experimentation. Upon this point Secretary Wilson aptly remarks, that while there "appears to be a difference of opinion as to the effect which the bill is intended to have, an examination of its several sections shows conclusively that those who favor it need to make themselves familiar with its provisions not less than those who oppose it." In demonstration of this fact, the Secretary proceeds to describe instances in which the bill will restrict, and in many cases actually prohibit very important investigations. For instance:

"We wish to determine whether a calf or a pig will contract tuberculosis by eating infected milk which has passed through the separator, or whether hog-cholera may be contracted from the separated milk from creameries. The only way to determine this is to feed infected milk which has been passed

through the separator. But if an animal contracts one of the diseases in that way it will probably become fatally infected; it will probably suffer pain. As this is not an inoculation experiment, it contravenes the provisions of the bill unless the animals are kept under anesthesia during the entire course of the experiment, which would be absurd and impossible.

"Again, we wish to determine whether susceptible cattle will contract Texas fever when separated from infected ones by an ordinary board fence. It is important to test the question by actual experiment. Here, again, we would contravene the provisions of the bill because if the animals contract the disease they would suffer pain.

"Or, we wish to know whether the contagion of a disease like bovine pleuropneumonia may be contracted from stables, or whether it must always pass direct from animal to animal through the expired air. To determine this, animals must be confined in stables where diseased cattle have been. If they contract the disease they necessarily suffer pain. Hence, the animal must be kept for weeks under ether or chloroform or contravene the provisions of the bill."

These are simply every day cases of experimentation which will be prohibited by this bill. Other important ones are mentioned by the Secretary in the communication referred to, and the assertion is made that many others could be instanced were it deemed necessary. It thus becomes apparent that the provisions of the bill do restrict this class of experimentation and absolutely prevent and prohibit many lines of work. Other provisions of the bill impose heavy penalties whenever an experiment varies in any way from the lines laid down in the bill. Moreover, a system of espionage by inspectors unacquainted with the purpose or necessities for original scientific work in any field, is provided for. These provisions make it possible for a local humane society to be represented in the list of inspectors and enable them to obstruct, harass, and prevent experimentation upon animals by frequent visits of the inspectors, by prolonged investigations of the laboratories, and by repeated calling, through the commissioners, for detailed reports of all experiments. Considering the bill, therefore, in its fairest and broadest interpretation, it must be regarded as a great restriction upon proper scientific animal experimentation, and, when we take into consideration the origin of the bill and the motives which prompted it, *viz.*: "for its influence as a precedent for State legislation as much as for its direct effect in the District," and the persistence of fanatics in

harrassing and obstructing the work of those whom they flatter themselves they are especially called upon to restrain, we are justified in our assertion that the practical and ultimate effect of this bill would be to abolish efficient animal experimentation in the District of Columbia.

ECHOES AND NEWS.

Honors to Dr. Prudden.—The degree of LL.D. has been conferred by Yale University on Dr. T. Mitchell Prudden, Professor of Pathology in Columbia University.

Smallpox in Tennessee.—Since March 18, 1897, there have been reported 22 cases of smallpox in Memphis, Shelby, and Madison counties, Tennessee. The continued prevalence of the disease is causing much uneasiness.

Smallpox at Bellevue.—The Marquand pavilion is under quarantine on account of a case of smallpox which occurred there last month. The patient, a child three years of age, was supposed to be suffering from chicken-pox when admitted to the hospital.

Death of Professor Fresenius.—Professor Carl Remigius Fresenius, the great chemist, died at Wiesbaden, June 10th, of apoplexy. He was born at Frankfort-on-the-Main in 1818. He was made professor of chemistry at the Institute of Wiesbaden, and was the author of several works on chemistry which have a world-wide reputation.

A New X-Ray Apparatus.—A new X-ray apparatus, possessing all the advantages of the Edison machine and none of its defects, has been invented by Dr. Jarvis S. Wight, Jr., and Professor Rufus Sheldon of the Polytechnic Institute, Brooklyn. An improved transmitter, by means of which the ordinary electric-light current can be used, is a distinctive feature of the apparatus.

Yellow Fever at Panama.—Four deaths from yellow fever occurred on a steamer from Panama which arrived on the 1st inst. at San Francisco. Passengers on the steamer say that the authorities at Panama endeavor to suppress the facts in regard to the ravages of the scourge at that port, and that it is dangerous for unacclimated persons to spend any time ashore at the Central American ports.

Sanitarium Struck by Lightning.—The sanitarium of Dr. R. P. Johnson on Missionary Ridge, near Chattanooga, Tenn., was recently struck by lightning and the building destroyed. Although panic-stricken the patients were removed uninjured from the burning building. No lives were lost, but two employees were rendered unconscious by the shock, and Dr. Johnson was slightly injured by a piece of falling timber.

Electric Light and Sailors' Eyesight.—The *Revue du Cercle Militaire* says that men employed on men-of-war are frequently affected with eye complaints which in some cases lead to total blindness. These are supposed to be

due to the intensity of the electric light used on board war ships. It has also been observed that gray and blue eyes, the iris of which is not much pigmented, are more likely to be affected than brown eyes.

Castile Soap and the Plague.—The prevailing impression that the famous soap of Marseilles was made from the pure olive oil of the south of France has been swept away by the fact that the soap factories have been obliged to close because of the quarantine against India. It appears that for twenty years the manufacturers have been supplying the market with an inferior product made from common linseed oil imported from India.

New Puzzle for Scientists.—According to the San Francisco *Examiner* a remarkable instance of an abnormal growth has been discovered in that city by Dr. Yoakum, who recently removed a tumor from the base of the spinal column of a nine-months old boy. The tumor contained a human embryo about four inches long. The bones were nearly all developed, especially the thigh and hip bones and portions of the vertebral column.

A New Style of Letter Linen.—The following letter written on an ordinary gentleman's linen collar was recently received at the San Francisco Board of Health Office: "Board of Health: Having used up all the writing paper I possess in a vain endeavor to have the Bryant Street sewer, from Twenty-sixth to Army, attended to, I am now compelled to use my linen to inform your office that its condition warrants attention. There is evidently some one connected with the Health Office not doing his duty, and whoever the collar fits let him wear it. Within the past year there have been thirty deaths in the immediate vicinity of this sewer, and your records will show that at the present time there are 100 sick children living near this morass. Yours truly, M. P. JONES."

Obituary.—The faculty of Bellevue Hospital Medical College has spread upon its records the following resolutions regarding the death of Dr. J. Lewis Smith. "It is with sorrow that we record in the minutes of the Faculty of the Bellevue Hospital Medical College, the death on June 9, 1897, of Dr. J. Lewis Smith, late Clinical Professor of Diseases of Children. Dr. Smith was a teacher in the College for thirty years. He brought to his instruction a ripe experience and sound judgment, and had attained a most enviable reputation, not only as a public teacher, but as a voluminous writer on the subjects of his special studies. His loss will be deeply felt, not only by the profession, but by the public at large, who benefited so much by his skill and devotion."

The Long Island College Hospital.—This institution will open its next winter's session in the new Polhemus Memorial Clinic, the gift of Mrs. Caroline H. Polhemus of Brooklyn. The building is situated on the corner of Henry and Amity Streets, and has a frontage of sixty-eight and ninety-two feet respectively. The design of the exterior is in French Renaissance. In plan the building is a rectangle with large courts for light and air on the sides opposite the street fronts. The two lower floors

will be devoted to dispensary work. The clinical lecture-room occupies the central section of the building from the third to the fifth floors. The chemical lecture-room on the sixth floor is similar to the clinical lecture-room. The eighth story is given up to the anatomic division, there being two large dissecting-rooms lighted by skylights, a Prosecutor's room, Demonstrators' room and bone library. The construction of the building throughout is of the most substantial and enduring type and thoroughly fire-proof.

CORRESPONDENCE.

THE BILL RESTRICTING ANIMAL EXPERIMENTATION.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: Are scientific interests ever really promoted by misstatements of facts? I am sure that THE MEDICAL NEWS does not think so; and that whenever inaccurate statements appear in its editorial columns they are due to misinformation. The NEWS regards with strong disapproval the bill now before Congress, placing the practice of vivisection in the District of Columbia under governmental supervision. But may not this sweeping condemnation rest upon imperfect information regarding the character and scope of this measure? Permit me at least to call attention to your editorial in the issue of July 3rd, and to some grave errors of fact therein contained.

1. You affirm that this is a bill "abolishing animal experimentation in the District of Columbia," and that it is "destined to prevent all animal experimentation." If this were true I confess I should regard such a measure with quite as much disfavor as yourself; but this charge, though again and again repeated, is wholly without basis of fact. I have had some slight influence in suggesting amendments to this proposed law, and I know that whatever restrictions the bill originally contained, it now permits all phases of inoculation experiments, all tests of drugs, of poisons, or of methods of surgical procedure, and in fact all other useful investigations upon living animals, whenever such experiments may be performed while the creatures are anesthetized. (See Sec. 2, clause c.) Is this "abolition of experimentation?" THE NEWS has been misinformed.

2. You state that "the Humane Society of Washington is endeavoring to usurp to itself the power of controlling all animal experimentation" in Government laboratories and elsewhere. Upon what basis of fact does this statement rest? This Humane Society is not once mentioned in the bill, as reported for consideration; the President of the United States appoints the inspectors, and Government officers only have anything to do with experiments or experimenters. To suggest that above these officials, is the usurping power of the Washington Humane Society, is to confer a potency of influence where none exists.

3. I am heartily sorry to learn in the same editorial that the advocates of this bill are in favor of preventing the occurrence of "imaginary cruelties," for if abuses of

vivisection are unknown, all effort toward prevention is wasted force. But is it all imagination? In his address before the American Academy of Medicine last year, the late editor of THE MEDICAL NEWS—Dr. George M. Gould—said: "At present the greatest harm is done to true science by men who conduct experiments without preliminary knowledge to choose, without judgment to carry out, without true scientific training or method, and only in the interest of vanity. . . . I have adduced this single American experiment, but I purposely refrain from even mentioning the horrors of European laboratories. . . . Dr. Klein, a physiologist before the Royal Commission testified that he had 'no regard at all' for the sufferings of the animals he used. . . . It may be denied, but I am certain a few American experimenters feel the same way, and act in accordance with their feelings." Does Dr. Gould here refer to "imaginary" evils? I adduce his name only as a witness, not as an advocate, for if I mistake not, he is as strongly opposed to the bill as yourself. But no writer has more forcibly presented the evils to remedy which this bill was designed. I do not believe that, if it becomes a law, it will in the slightest degree impede any form or phase of useful investigation. In the first draft there were some features which have been entirely eliminated from the present measure, and it is to be regretted that this fact is so widely unknown, or so frequently overlooked.

ALBERT LEFFINGWELL, M.D.

BROOKLYN, July 7, 1897.

OUR PHILADELPHIA LETTER.

[From our Special Correspondent.]

"THE ÆSCULAPIAN ASSISTANCE AND INTERMENT COMPANY, LIMITED"—THE THOMAS HOGE MEMORIAL WARD OF THE PRESBYTERIAN HOSPITAL—FRESH-AIR PIERS FOR THE MASSES—DR. S. WIER MITCHELL'S RUMORED DEATH—FOURTH OF JULY CASUALTIES—VITAL STATISTICS.

PHILADELPHIA, July 10th, 1897.

THERE is a certain class of people in every community who, when they fall ill, or imagine themselves ill, repair to their favorite dispensary or hospital, and accept as a matter of course the free treatment given them; all sorts and conditions of men are included in this class, from the coal-heaver to the prosperous-looking individual whose personal appearance infers a lack of familiarity with the seamy side of life; but they are all alike in one thing—they pride themselves in getting something for nothing, and they get it unconditionally, and without embarrassing questions about their deservedness, thanks, very often, to the "charity" of some pseudo-philanthropist who has thought it beautiful and Christianlike to found a free dispensary for his fellow-men. Then there is another class of people whose motives are precisely the same as the former's, but who lack the assurance of the dispensary habitués, for they are conscious that they are not those for whom free dispensaries were intended, and they are afraid to pretend that they are; these people also are of a single mind about one thing—they pride themselves in getting something for as near nothing as possible, and they pro-

ceed to get it by patronizing twenty-five cent "specifics," or by taking the drug-store clerk's advice when they are ill, or by ingenuously asking their doctor friends leading questions about their maladies, hoping to elicit some counsel gratis.

For the latter class there exists a veritable god-send in the garb of a certain medico-commercial concern which may be termed "The Æsculapian Assistance and Interment Company, Limited." This enterprising corporation from all appearances finds a profitable field of labor in this city, if elaborate office suites in a prominent business section of the town, and large numbers of visitors to these offices are indications of prosperity. It agrees to furnish the sick or injured seeker for medical bargains, for the sum of twenty cents weekly, with the "best and promptest medical treatment in the city," or, should the patron not survive this excellent and prompt medical treatment, and pass to a world as yet uninvaded commercially by the company's agents, he or she is guaranteed the following gorgeous funeral arrangements, the contemplation of which, from the standpoint of this class of the community, must surely take away the sting of death: "Undertaker's services, including laying out, and advertising funeral notice in at least three daily papers, also one black-trimmed casket for an adult, or a white-covered coffin (if under thirteen years of age), the said casket or coffin to be satin-lined, with pillow to match, and to have from four to six nickel-plated handles, and a nickel-plate with name and date of death inscribed thereon; one plain box for casket, also one shroud of good cashmere, ice for preserving the body (not longer than four days), provisions for draping the room (candles, if wanted), the gloves and crape at the door, also furnish a grave, including and filling the same, in any cemetery in or about the city or town herein mentioned; also, a hearse, with five carriages, white marble tombstone if the party be over thirteen years of age when death occurs; a hearse with four horses, white marble tombstone, if the person is between six and thirteen years of age, and a hearse and three carriages and white marble tombstone if the person is between two and six years of age." In such a strain the prospectus of the company continues for several pages, at times lapsing into such enthusiasm that construction of sentences is sacrificed for vivid word pictures.

With such a *fin de siècle* institution within the reach of the "get-it-as-cheap-as-you-can" class, the question arises what will become of the quarter-dollar "specific" seller and the drug-store "doctor" who must decline to furnish tombstones and satin-lined caskets with their services? But the doctor friend escapes the innocent questions which he isn't supposed to see through, but which he does. All of which tends to add to one's belief in a certain ancient saw relating to the zephyrs of an evilly inclined wind.

Through the liberality of Mrs. Elizabeth Pleasanton, the Presbyterian Hospital will soon possess a handsome structure for the exclusive treatment of diseases of the nervous system. It will be known as the Thomas Hoge Memorial Ward, in memory of a relative of the donor. The new building will be four stories in height, and is to

occupy a prominent place in the hospital grounds adjoining the Administration Building. The first floor will contain thirteen apartments, one of which will be devoted to skiagraphy, and another to ophthalmologic work; the second floor is to be used for ward purposes, diet kitchens, electrical and hydrotherapeutic rooms; "rest" rooms and apartment for the surgeons occupy the third floor; while two operating-rooms, with adjoining apartments for sterilizers and surgical dressings, will be situated on the top floor.

It is expected that the new ward will be open for the reception of patients by next October. Dr. S. Wier Mitchell and a corps of assistants will have charge of the work of this new department of the hospital.

The establishment of "Fresh-Air Piers" along the river front is doing valuable service in improving the condition of the poor of the lower classes, and offering them an opportunity to escape for a time the reeking atmosphere of the alleys and courts, and the intolerable heat of the tenements. The woman of the tenement may bring her sick baby to one of these piers each night, and remain until the following morning; young and old alike are welcome to use these breathing spaces, and such adjuncts to comfort as easy seats, well-arranged lights, and covering overhead are provided. The piers, which are similar to those along the New York water front, are under the care of the Health Protective League, of which Dr. Rachael D. Skidelsky is the president; they are open every week day from 7 P.M. to 7 A.M., and all day Sunday. It is hoped that the establishment of such breathing spots for the masses will result in the alleviation of much suffering, and in a reduction of the high infant mortality among this class of the population.

A rumor reached this city the early part of the week alleging the death in London of Dr. S. Wier Mitchell. Fortunately, upon careful inquiry, the report could be stamped as a senseless canard, due most likely to some news-ridden journalist's elastic imagination.

As a result of the celebration of the Fourth of July, the various hospitals of this city treated 120 accident cases attributable to the use of fireworks, one of which proved fatal. "Heat" cases numbered twenty-one, the majority of which occurred among the celebrants, so that it may be said that the cost of this patriotic remembrance of our country's decision to strike out for herself resulted in a total of 141 casualties.

There were thirty deaths from diphtheria, and fifteen from scarlet fever last month at the municipal hospitals; 116 cases of the former disease having been admitted, and 145 of the latter.

Post-graduate Facilities in Russia.—There are facilities for post-graduate study at the ten Russian Universities and at the Army Medical Academy at St. Petersburg. Courses on various special subjects, varying from one to three months, are held, and the fee charged is a small one, averaging about \$2.50. There are abundant opportunities for graduates desiring to do original scientific work in the laboratories of the universities and hospitals.

OUR VIENNA LETTER.

[From our Special Correspondent.]

PASTOR KNEIPP'S METHODS, PATHOLOGY, AND THERAPEUTICS, AND THE LESSONS SUGGESTED BY HIS SUCCESS—PROFESSOR PALTAUF AND THE INEFFECTU-
CACY OF PLAGUE SERUM—LUMBAR PUNCTURE IN
THE DIAGNOSIS OF MENINGITIS AND ALLIED CON-
DITIONS IN CHILDREN.

VIENNA, June 25, 1897.

THE Vienna papers recently have contained daily bulletins on the condition of Pastor Kneipp's health, and the announcement of his death, which has just occurred, occasioned deep regret. There is scarcely a medical man in Europe in whose condition so much general interest would have been displayed. It was in a medical way that Kneipp gained celebrity, yet modern medicine owes him very little, if anything at all. Some time when another Oliver Wendell Holmes writes on the vagaries of therapeutics in our nineteenth century, Pastor Kneipp and his "water cure" will occupy as prominent and as inexplicable a place as the "unguentum armamentarium" of Sir Kenelm Digby, or Bishop Berkley's tar water in other times. More people have gone to Wörishofen during the last ten years to consult the simple, well-meaning country clergyman about their health than would suffice to keep at least half a hundred doctors busy all the time. Some years ago 20,000 was set down as a conservative estimate of the number of annual medical pilgrims to this modern shrine. In the course of time the number has increased, not diminished. People came from all parts of the world. Australians, Americans, East Indians, as well as Europeans, have come to Vienna every now and then to consult some distinguished regular physician before going to Wörishofen for Pastor Kneipp's "cure." These are the ones who somehow have felt the absurdity of what they were doing, and yet, spurred on by hope and the example of others have continued their journey after satisfying the last qualms of common sense by a final medical consultation.

The little town of Wörishofen has more than doubled in size, and, without any special natural advantages, has become one of the most popular health resorts in Europe. People of all classes have flocked to it, and members of reigning royal families have been glad to become Pastor Kneipp's patients. The Empress of Austria obediently took her daily sprinklings and baths and her daily walk barefoot in the grass at his direction. He was summoned some time ago to prescribe for the Pope, and a distinguished member of the Rothschild family went to Wörishofen in his private car to consult him, and used it as a hotel during his stay, because the inns were not good enough for him. He, too, had to go barefoot in the dewy grass in the early morning; but this is not even considered an eccentricity in Wörishofen, as half the world there has been doing it uncomplainingly for years. And the secret of it all is the wonderful influence of mind over body, and the fact that change of scene and mode of life will cure half the chronic ills that flesh is heir to. Pastor Kneipp's book, "My Water Cure," of which some sixty editions have been exhausted in less than ten years, besides a num-

ber of editions in most European languages, gives all the details of his system. Its pathology is of the simplest, crudest kind, a bit of the old humoral theory serving to explain the etiology of practically every ill. All disease is due to impure blood and corrupt tissue humors. All disease, even organic heart and nervous lesions, disappear when the blood and humors have been properly cleansed. Blood purification was the motto of the empirics before Hippocrates' time. It has always been the slogan of the charlatan, and it is the supposed secret of the success of the harmless, wonder-working sarsaparillas and a hundred other panaceas of our own day. Not that Pastor Kneipp is to be classed with the crowd of humbugs who are in the medicine business for revenue only, and who everywhere are allowed to continue the humbugging of a readily deluded public. He was without doubt a sincere believer in himself and his theories, however absurd they may seem. Nothing is clearer proof that psychical conditions are contagious quite as much as physical affections than to see how ideas utterly unreasonable may be generally accepted when urged with straightforward simplicity and the ardor of conviction.

And so a book which has for its groundwork the popular fallacies of times long past and the simple remedies of the grandmothers of generations ago, instead of being considered as the idle fancy of a self-sufficient, but ignorant, country clergyman, has been taken seriously in our day of vaunted popular education. The exposé of his system by himself serves as a great advertisement. His cases included the cure of cancer, when taken in time, by cold douches and baths, and of organic heart disease, children's paralysis, and epilepsy by the same means. Pneumonia he cured in three to five or, at most, seven to nine days by the application of a poultice of coagulated milk. He was certainly not the first to cure pneumonia by simple means in such a short time, but when the coagulated milk poultice is said to cure pleurisy, peritonitis, and pelvic inflammation, then there is cause for wonder. Old popular ideas in medicine are played on with great effect, and hygienic formulas that were supposed to have a meaning years ago are once more put forward for the solution of intricate medical questions.

A tendency to relapse of any affection was overcome by "hardening the system," whatever that may mean, the method employed being that of cold baths, douches, and walking barefoot in wet grass, preferably in the early morning. The old doctrine of the striking in of secretions and eruptions, and the consequent danger to the system, was insisted on, and the increase of "transpiration," a mysterious process which is brought about by the plentiful use of cold water externally, which removes "noxious humors" from the blood, and so cures all ordinary human ills, was the main indication of his therapeutics. Beyond cold water, the infusion of hay flowers, also for internal use, was highly recommended.

There would seem to be a lesson or two in these days of nihilistic therapeutics and over-specialized medicine in Pastor Kneipp's wonderful popular success, for his name has become a household word all over Europe without any of the advertising methods that betoken the mere

charlatan. One cannot help thinking that perhaps, too much attention is being paid by the practising physician to the more scientific branches of his profession, to the neglect of therapeutics, because the latter is empirical and unsettled, it being forgotten that, after all, the application of therapeutics constitutes his only real *raison d'être*. On the other hand, an overestimated specialism devotes itself too much to the organs it is particularly interested in, and forgets that it is often improvement in the general health which will best restore these organs to their proper functions. A hundred years ago, homeopathy owed its successful introduction to an analogous error in another direction. Will the lesson of the success of the irregulars be lost in this generation?

At the recent meeting of the Imperial Vienna Medical Society, at which the report of the Austro-Indian Pest Commission was discussed, Professor Paltauf mentioned some attempts which had been made to immunize dogs with pest serum. Though carefully done, the animals invariably died of marasmus. As a result of his experiments, Paltauf agrees with the unfavorable observations of the Commission on Yersin's serum. He is inclined to think that the serum-therapy of the disease is extremely improbable.

A series of eighty cases of meningitis, in which lumbar puncture was done for diagnostic purposes, has just been reported (*Wiener klinische Wochenschrift*) from Professor Widerhofer's clinic. In sixty-two of the cases there was question of tuberculous meningitis. In nearly all of the cases the bacilli, though sometimes in small numbers, could be demonstrated. When the symptom complex of tuberculous meningitis was present, and microscopic analysis of the cerebrospinal fluid negative, its cloudiness and the increased pressure were of diagnostic importance. The limits of the normal physiologic pressure of the cerebrospinal fluid are, unfortunately, too little known to allow of the formulation of rules which can be followed with assurance. Inoculation experiments, when bacilli were not found in suspicious cases, almost invariably confirmed the clinical conclusions.

As to the important matter of the differentiation of other forms of meningitis, so important as regards duration and the absolute prognosis, lumbar puncture was especially useful. The streptococcus and the Weichselbaum-Fränkel diplococcus could always be found in their specific meningitides, while hemorrhagic fluid seemed pathognomonic of epidemic cerebrospinal meningitis. The value of the procedure, too, in differentiating conditions which simulate meningitis from the basal pressure symptoms they produce, as tumors, etc., was worthy of special note. In seven cases it absolutely established the diagnosis of the absence of meningitis. In but one or two of the cases did the puncture produce any serious symptoms. It was always done without an anesthetic, the condition of hebetude usually present being enough to guarantee against sudden movements on the part of the patient that might have proved seriously inconvenient. In children, the point of puncture recommended is between the second and third lumbar vertebrae, not between the first and second, as in adults, in whom the cord is longer.

TRANSACTIONS OF FOREIGN SOCIETIES.

London.

TWO CASES OF "DERMATITIS MALIGNA"—NON-PERFORATING RUPTURE OF THE HEART—THE COMMONER FORMS OF HEADACHE AND THEIR RELATION TO ARTERIAL TENSION—CHRONIC HYDROCEPHALUS—THE AMOUNT OF ANASTOMOSIS IN THE MESENTERIC VESSELS—THE RECOGNITION DURING LIFE OF ADHERENT PERICARDITIS—MYOMA OF THE VERMIFORM APPENDIX—A WHOLE PENCIL OF NITRATE OF SILVER SWALLOWED, AND RECOVERED FROM.

At the session of the Pathological Society, held May 4th, ROLLESTON and HUNT showed two cases of "*dermatitis maligna*," in both of which carcinoma subsequently developed. One was that of a man aged sixty, in whom a characteristic raw, glazed, vividly red condition of the skin had existed above the pubes for eight years. Two years ago three nodules of carcinoma developed. Removal of the whole growth has not been followed by recurrence. The sweat glands were dilated, but did not appear to be undergoing any carcinomatous change. The carcinoma was a spheroidal-celled one arising, in the opinion of the reporters, from the sebaceous glands.

The second case was in a woman forty-five years old. In this instance the skin affection began in the sinus of a mammary abscess, eight years previously. It spread widely, and a year ago a cancerous nodule was observed. At operation the whole affected area, together with the glands of the axilla, were removed. There has been no recurrence. This carcinoma was a squamous celled one, showing a transition to the spheroidal-celled type. Neither the mammary gland nor its ducts was in any way involved, and it ought, therefore, not to be called Paget's disease, that name properly being reserved for a long-standing dermatitis of the nipple, as originally described by Paget.

THIN saw in the first of these two cases one of the more ordinary forms of epithelioma; the small cell infiltration of the papillary layer was well-marked, and in this respect differed from the ordinary forms of epithelioma. Hence, the value of the term "*papillary malignant dermatitis*." He doubted if the sebaceous glands were ever the source of carcinoma, including in this statement "*rodent ulcer*."

SPENCER thought the term "*malignant dermatitis*" ambiguous and obscure, for the dermatitis is only antecedent to the malignancy, and the word malignant does not of necessity convey the meaning of a new growth, but may refer to the inflammatory process itself.

FOX exhibited an instance of a non-perforating rupture of the heart, occurring in a stout woman of good health and active habits, who was seized with precordial pain after a cold bath. Morphine, hypodermatically, and a small venesection, gave some relief. Death followed after forty-eight hours. The pericardium was found to be full of blood. The heart was very fat, and there were two small rents in the walls of the left ventricle which did not perforate. It appeared that the distension of the fatty

heart had ruptured the exocardium at these points, causing a slow leakage of blood, which produced death in two days.

At the session of the Hunterian Society, held April 28th, FOX described *some of the commoner forms of headache, with especial relation to arterial tension*. The determination of the tension present rests partly on the sustained character of the pulse, and partly on the accentuation of the second sound of the heart, as heard over the aorta and in the neck. The typical headache due to anemia is frontal and throbbing, similar to that caused by constipation. In albuminuria the pain is usually in the top of the head, and is not relieved by lying down. These forms of headache are all attended by increased tension, and this is true of the majority of cases of migrain. Besides the all-important constitutional treatment, cannabis indica is the most useful remedy in these cases, and may be pushed to intoxication without fear. The fresh extract is the most reliable form of this drug. For headaches, associated with low tension, including those due to tachycardia, alcohol, cough, and amenorrhea, caffeine is the remedy *par excellent*. In middle life, heart disorders cause headaches, with increased tension, perhaps, in the earlier stages, but diminished tension in the later ones. In the old, the steady increase in blood pressure, the senile heart and the asthenic dilated heart, bring their own head discomforts. In the *plus* tension of old age, the saline aperients are often of great value.

Before the Clinical Society, at the meeting held May 14th, TAYLOR read a paper on *chronic hydrocephalus*, and reported a case which ended fatally at the age of sixteen years. The patient had in infancy a large head, but grew up strong and well, attended school, and learned to play the violin. Later he learned typesetting, at which he was employed until he was taken with his last illness. This began with headache and vomiting, followed by dizziness. In the hospital his head was found to measure twenty-three inches in circumference. A few days later the head was retracted and paralysis set in, extending from the feet upward. He died with paralysis of the diaphragm seventeen days after the sickness began.

The autopsy showed the bones of the skull to be much thinned and the ventricles to contain about thirty ounces of fluid. The retention of the mental powers in this case until such a late period of life is very unusual.

LOCKWOOD related a case which throws light on the *amount of anastomosis in the mesenteric vessels*. A man aged sixty-four attempted suicide by stabbing, using a carving knife. The wounds inflicted were all in the mesentery. One of them was parallel to the bowel, and only half an inch removed from it, and had divided an artery of considerable size. The several mesenteric wounds were sewed up, including the one described, as it was only three-quarters of an inch long, and it was not thought that it would deprive the bowel of any considerable supply of blood. The bowel itself was not injured. The man died after two days, and it was found that the intestine opposite the rent referred to was almost gangrenous. A careful examination of other mesenteries re-

vealed the fact that there are no loops of anastomosis within half an inch of the bowel, and that therefore, in the case in hand, the bowel should have been resected.

MARSH mentioned the case of a man thrown from his horse while hunting, and striking upon a heap of stones. There were no immediate symptoms, and he went to his business on the following day. He then rather suddenly collapsed and died. The intestine was gangrenous for several feet, owing to a rent in the mesentery which had severed a large branch of the superior mesenteric artery without, however, giving rise to any great hemorrhage.

TAYLOR called attention to the fatal cases reported as being due to thrombosis of a branch of the mesenteric artery, producing death of the gut. Such cases show that the anastomosis of the mesenteric vessels is not to be relied upon.

At the meeting of the Leeds and West-Riding Medico-Chirurgical Society, held April 9th, CHURTON showed a *heart with an adherent pericardium, the diagnosis of this condition having been made during life*. Old adhesions existed between the lower part of the left ventricle and the pericardium, and in consequence the eleventh rib was distinctly drawn in at each systole. This sign, which is known by the name of Broadbent, was observed a few days before death. How long it had existed there was no means of determining.

CHURTON also showed a *myoma of the vermiform appendix*, simulating recurrent appendicitis. It was a sessile tumor, the size of a small bean, and situated about three-quarters of an inch from the distal end of the appendix, occluding the lumen at this point. Its presence was not detected until the appendix had been removed and cut open. There were no peritonitic adhesions or other evidence of inflammatory action.

DRURY described *his own experience with a large dose of nitrate of silver*. A year ago, after a week's illness, it was decided to make an application of nitrate of silver to his throat. In the attempt to do this the whole pencil (twenty-five grains) slipped down the esophagus. His feelings were indescribable. There was intense gastric pain, and a sensation as of impending death. From the mouth and nose a froth welled up, due, no doubt, to the decomposition of the silver salt and liberation of hydrogen by the hydrochloric acid in the stomach. There was an irresistible feeling that the pencil was still lying in the esophagus. This was so horrible to contemplate that he insisted, against all advice, on the passage of a probang, which failed to bring out anything. Mustard was given in large quantities and free vomiting induced. No trace of the salt was to be seen in the vomited matter. Collapse and great exhaustion followed, and he was kept for some days on a milk diet. There was no further vomiting, but constipation. The temperature for some days was subnormal, but all these symptoms gradually disappeared. During the fortnight following the accident there was complete desquamation of the whole skin, and during the subsequent year there was more or less dyspepsia, but there had been a certain amount of this trouble before the accident.

Berlin.

SARCOMA OF THE LIVER AND KIDNEY WITH TUBERCULOSIS OF THE LUNG—TUMOR OF THE BRAIN WITH UNUSUAL LACK OF SYMPTOMS—THE CARE OF INFANTS IN HOSPITALS AND ASYLUMS.

AT the session of the Medical Society, held May 5th, BAGINSKY presented the organs of a child aged eighteen months, in whom the right side of the abdomen was markedly distended, especially well up toward the hypochondrium. Here could be felt a soft, well-nigh fluctuating mass occupying especially the region of the liver, extending downward to the umbilical line, and backward into the lumbar region. Nowhere in these areas was there any tympanic resonance. The urine was almost normal, containing no renal elements but a trace of albumin. The child had a fever, and as it was considered probable that there was a large abscess present a needle was thrust into the swelling, but only a few degenerated cells were obtained. An exploratory incision was then made, which revealed a dark-brown, soft mass—probably a tumor growing from both the liver and the kidney. This supposition was confirmed at the autopsy which followed the operation by a short interval. The kidney itself was almost intact but completely surrounded by the tumor, which apparently sprung from its hilus. The growth had pushed forward under the liver, involving this organ, while in the lung and bronchial glands were masses which were at first regarded as metastases, but which the microscopic examination showed to be typical of tuberculosis. The tumor was a spindle-celled sarcoma. A combination of sarcoma and tuberculosis has been reported before, though it is by no means a common occurrence.

A second case of sarcoma was reported by BAGINSKY, this tumor being found in a child $6\frac{1}{2}$ years of age. At autopsy it was found that a myxo-angio-sarcoma of great size had surrounded the corpus striatum and optic thalamus of the right side, extending into the lateral ventricle and reaching also to the left side, where it at least pressed on the corpus striatum. The remarkable fact in the case was that in spite of the situation of the tumor and its great size, none of the symptoms were present which are ascribed to tumors situated in the corpus striatum and extending to the optic thalamus. The symptoms were only those of a large brain tumor, and especially there was no paralysis, which is said to be present in tumors of the corpus striatum.

HEUBNER thought that the absence of paralysis was due to the fact that the tumor chiefly affected the gyrus fornicatus, which does not belong to the motor portions of the brain.

A paper upon infants and infant hospitals was read by HUEBNER. The writer expressed his regret that the infant mortality remained so high, and gave rules for cleanliness to be observed in the artificial feeding of infants. The various food mixtures were also spoken of. The treatment of these young infants in hospitals ought to be carried out in accordance with the following rules:

1. On account of the great difficulties which are connected with bottle-feeding, every mother physically capa-

ble of nursing her child should be obliged to do so. That this can be done at no great expense is seen in the "Kaiserliche Kinderheim" in Gräbschen, near Breslau.

2. Bottle-fed children should be separated from the others, and not more than four should be placed in one room. Very sick children should be treated in single rooms.

3. The percentage of nurses to patients needs to be considerably greater than in adult hospitals. Three day nurses (two for feeding and one for the care of the "lower half" of the children), with two night nurses, that is five in all, may be regarded as the maximum number for eight infants.

4. An infant's hospital should be kept as such, and should not be allowed to serve as well the purposes of an orphan asylum. The length of time which it is necessary for a baby to remain in the hospital can only be determined in each individual case.

5. The expense of such an institution will naturally be high, but in the light of our present experience there will be a mortality far below that obtainable in the old institutions where careless methods have usually prevailed.

NEUMANN thought that the great expense of caring for children in the thorough manner described would be in part avoided by the provision of sufficient asylums to receive the children which are no longer in need of hospital care. In Berlin, at least, such institutions are lacking, and, as a result, the children have to be kept in child and adult hospitals.

SOCIETY PROCEEDINGS.

NATIONAL CONFEDERATION OF MEDICAL EXAMINING BOARDS.

Seventh Annual Meeting, Held at Philadelphia, May 31, 1897.

The Chairman, DR. W. W. POTTER of Buffalo, read his annual address, taking as his subject

RECIPROCITY IN MEDICAL LICENSURE; A PLEA FOR INTERSTATE INDORSEMENT.

In this he expressed himself as thinking that the remedy for the prevailing evils lies in legislative enactments secured by the demands of an enlightened public opinion. Twenty-seven States, he said, now require separate examinations, and fifteen of them demand diplomas from recognized colleges when the candidate presents himself before the board. The value of the same law in all the States was dwelt upon and a review made of the different laws in the different States. During the past academic year he reported the establishment of new examining boards in the District of Columbia, Indiana, Idaho, and New Hampshire, showing that advancement was being made in State control. In closing, he stated that the confederation favored reciprocity in securing proper general laws in all the States.

A resolution authorizing the appointment of committees to make thorough investigation of the different medical schools throughout the country, so as to distinguish the good from the bad, was referred to the Executive Com-

mittee to report on at the next meeting. The question providing ways and means of securing reciprocity among the States, was referred to the Executive Council.

The report of a special committee appointed at the previous meeting was then heard. The committee concluded by making the following recommendations:

"That, as far as may be vested in the discretion of existing examining and licensing boards, the rule be enforced that any college, to be in good standing, must enforce entrance requirements, embracing the studies of grammar, geography, two years of Latin, arithmetic, algebra (through quadratics), plain or solid geometry, physics, rhetoric, United States history, and one modern language other than English, or a high-school diploma issued after four-years' attendance, and based upon examination in the foregoing subjects."

It also recommended that the Medical College Association amend its constitution by advancing the requirements for admission, so as to include all of the above subjects.

DR. EUGENE BEACH of New York presented a resolution providing that when, for any reason, a license to practice medicine in any State has been revoked or suspended, the proper officers of boards of examiners in other States should be notified of the facts. It was adopted unanimously.

Dr. Potter was re-elected President, and Dr. A. Walter Suiter of Herkimer, N. Y., was re-elected Secretary and Treasurer. The new Vice-Presidents are Drs. L. B. Godfrey of New Jersey and William Bailey of Kentucky.

THE AMERICAN ACADEMY OF MEDICINE.

The regular annual meeting of this important body was held in Philadelphia on May 31, 1897. During the morning session, much of which was devoted to executive business, the following officers were elected and the names of many new members were added to the roll: President, Dr. L. Duncan Bulkley of New York; Vice-Presidents, Dr. John B. Roberts, Philadelphia, Dr. V. Y. Bowditch, Boston, Dr. Charles Dennison, Denver, Dr. F. T. Rogers, Providence; Secretary and Treasurer, Charles McIntire, Easton, Pa.; Assistant Secretary, Walter L. Pyle, Philadelphia.

DR. J. W. GROSVENOR of Buffalo presented an exhaustive paper upon

THE RELATION OF ALCOHOL TO PREVENTIVE MEDICINE.

In this he dwelt upon the influence of alcohol and drunkenness in the production of idiots, lunatics, epileptics and criminals, and by statistics was able to trace a very large percentage of accidents, including suicides, to the same cause. He concluded that if a board of health for the safety of the community can rightly kill the butchers' diseased cattle, on what ground can it be forbidden to destroy the saloon-keepers' poison liquor? It may be objected that such an act would be an infringement of personal liberty, but it is not so. All right methods should be used for elevating to a higher plane man's physical, mental, and moral nature, and to accomplish this noble object due recognition should be given to the part played by alcohol as an antagonist of preventive medicine.

Other papers were presented, with more or less discussion, upon

THE TRUTH ABOUT CALOMEL—THE GREAT PHYSICIAN OF THE REVOLUTION—WHERE SHALL WE PUT UP THE BARS—A PLEA FOR PRELIMINARY EDUCATION—MEDICAL EDUCATION.

A special discussion of

THE RELATION OF THE COLLEGE TO THE MEDICAL SCHOOL

had been arranged and views of three gentlemen who were solicited to speak upon this topic proved exceedingly interesting. DR. BAYARD HOLMES of Chicago spoke as Secretary of the Association of American Colleges; ATHELBERT D. WARFIELD, L.L.D., as President of Lafayette College, and DR. WILLIAM PEPPER as ex-Provost of the University of Pennsylvania.

Dr. Holmes presented certain demands which were made in behalf of the Medical School. Among these demands was one that due credit should be given the Medical School's courses; another, that it should not be made a "hired man" for the service of the University. In certain State schools he knew of, the speaker said, the medical school earns money for the other departments of the University, maintaining expensive chairs there. He complained, too, that the professors of literary institutes assume a lofty superiority toward medical colleges and frequently strive to dissuade young men from attending medical lectures. Another complaint was that students frequently are not given credit in their bachelor's degree for allied or special work done in some medical subject.

Dr. Warfield contended that mental discipline and culture, to be obtained at college, should be prerequisites for a medical man, and he was of the belief that medical schools which desire the attendance of college-bred men must raise the standard of admission. Colleges can relieve the medical schools of some of the elementary work in chemistry, biology, etc., and this preliminary instruction is better given by a teacher who devotes his entire time to the one branch, as in a college, than to the busy practitioner who snatches a few hours from his practice to lecture to large classes in the medical school. A new difficulty in a general education, he thought, was the "short-cut" method of special courses.

Dr. Pepper deplored the ruinous loss of time, and the consequent insufficient mental training, due to the turning from one curriculum to another, and declared that, above everything else, co-ordination of studies, from the kindergarten to the professional school, were absolutely necessary. However, the co-ordination which will make this possible will never come to pass until teachers meet, and, expressing confidence in each other's work, strive to attain the best end.

DR. J. MCFADDEN GASTON of Atlanta thought a year or so spent under the guidance of a preceptor before entering upon the final study for admission to the profession had great advantages.

DR. A. M. TALLEY of Columbus, S. C., regarded the requirement from students of a preliminary classical education important in maintaining the name of medicine among the learned professions.

DR. HENRY M. HURD of Baltimore was of the opinion that it was impossible for the student in many instances to select his profession early enough to shape his preliminary course toward the desired end.

GERMAN SURGICAL SOCIETY.

Meeting Held at Langenbeck Haus, Berlin, April 21 to 24, 1897.

[From our Special Correspondent.]

(Continued from page 31.)

THIRD DAY—APRIL 23D.

The President, PROFESSOR BRUNS of Tübingen, in the Chair.

The proceedings were opened by the reading of a paper, entitled

THE OPERATIVE TREATMENT OF HYPERTROPHY OF THE PROSTATE,

by PROFESSOR HELFERICH of Greifswald. He sketched the history of the operation of castration for this condition, and quoted a number of statistics relating to its successful employment. Personally, his experience had been that resection of the vas deferens is equally effective in the majority of cases in which operation is indicated. The prostate should always be examined carefully both before and after operative measures have been instituted, rectally and by means of the cystoscope. He had noticed that, although micturition or catheterization is more easily accomplished after such an operation has been performed, psychic disturbances, often of a marked character, are present in most cases.

The speaker referred in favorable terms to the use of Bottini's galvanocautery in cases of prostatic enlargement, and said that the very slight constitutional derangement following its employment was a point largely in its favor. Regarding the ligation of the internal iliac artery, he said that several remarkable cures had been reported, and that this method of procedure was to be recommended in severe cases. Suprapubic cystotomy may be indicated under certain conditions, but is merely a palliative measure.

During the discussion which followed, DR. MIKULICZ reported 50 castrations, in which 29 resulted in a reduction in size of the prostate, 9 in death, 1 in acute mania, and in the balance, no improvement. Of 45 cases of resection of the vas deferens, 10 resulted in a diminution in size of the gland, 27 in improvement of symptoms, and in 8, no improvement. Of the latter, 3 patients were unimproved after a subsequent castration.

DR. BIER of Kiel said that good results have been obtained from ligation of the internal iliac artery for this condition, but on account of the difficulty of the operation it is not to be recommended, except in selected cases. He had lost one patient from septic peritonitis, upon whom he had operated in this way, and two from pneumonia.

DR. MÜLLER of Aachen then showed a patient who had had a defect of the tibia covered by an osteoplastic flap from the fibula. The flap had nearly doubled in size since the operation.

DR. EISELSBURG of Königsberg reported two similar cases, one of sarcoma, the patient later dying from recurrence, and the other that of a child with a compound fracture. In each instance the flap included skin, periosteum, and bone, and became firmly attached.

PROFESSOR KÖNIG of Berlin showed a girl, seven years of age, in whom laryngotomy had been performed in 1892 after intubation for diphtheria had been tried and proved useless. The child had been wearing a long tracheal tube, and attempts to remove it had always resulted in severe attacks of dyspnea. In order to remedy the existing defect, four separate operations had been resorted to. Granulation tissue was first removed from between the larynx and trachea, and the trachea was freed from its attachments behind the sternum and brought up and sewed to the larynx. Two months later, at the time of the second operation, the two portions of the tube had again become widely separated; these were brought together as before, the canula being allowed to remain in place. Subsequently, two additional operations were performed in order to close the opening, skin and bone flaps in the first instance being taken from the sternum, and in the second, from the clavicle.

A son of Dr. König reported five cases of defect resulting from tracheotomy and laryngotomy, in two of which the opening had been closed by means of a skin and cartilage flap from the thyroid cartilage.

PERMANENT CURE AFTER EXTIRPATION OF THE LARYNX

was the title of a paper by DR. GRAF of Berlin. He reported 47 cases of carcinoma of the larynx and 1 of malignant endochondroma operated upon by Von Bergmann. In all of these cases the diagnosis was confirmed by the microscope. Twenty-eight of the operations included total extirpation of the larynx, 11 extirpation of one side only, and 9 of partial extirpation. Of these, 42 were males and 6 females, the age of the patients ranging from thirty-one to seventy-two years. Tracheotomy was performed as a preliminary measure in all cases, and great stress was laid upon the importance of closing the wound from the pharynx and trachea.

Of the cases of total extirpation, 1 patient remains well after a lapse of seven years, 1 after two and three-fourths years, and 1 after one year. Cures have resulted also in 4 cases of one-sided and in 4 cases of partial extirpation.

DR. HEUSNER of Bremen exhibited a number of cases of fracture of the patella in which excellent results had been obtained by means of subcutaneous silver-wire sutures passed through the ligamentum patellæ and the tendon of the quadriceps extensor.

During the discussion which followed, KÖNIG said that the irregular fractures of the patella are unsuited to this method of treatment. He believes that the large amount of callus resulting from the procedure seriously disturbs the function of the joint. It is his own practice to cut down on the fracture and to sew the fragments together by means of catgut sutures.

ANATOMIC AND CLINICAL CONTRIBUTIONS TO THE KNOWLEDGE OF AND OPERATIONS FOR CANCER OF THE PHARYNX

was the title of a paper by DR. KRÖNLEIN of Zürich. From his own experience, the speaker had arrived at the conclusion that cancer of the pharynx is much less rare than generally has been supposed, and that it is met with as frequently as malignant disease of the tongue. He had had sixty-one cases of the affection under his charge, fifty-six being in the male sex, and all were of the flat epithelial variety. The disease, as met with in the pharynx, is usually unilateral and its course extremely rapid.

The operation for relief of the condition is performed after resection of the inferior maxilla after the method of Langenbeck. Of the fifteen patients operated upon by the speaker, ten had died from recurrence after an average lapse of fifteen months from the initial appearance of the disease, one had developed cancer upon the side opposite to that operated upon, after a freedom of seven months; three are living, the growth not having returned; and one is living, with a recurrence. Of eight patients suffering from the laryngeal form of the disease, who were operated upon through a subhyoid incision along the edge of the sternomastoid muscle, six died as a result of the operation, in one the condition has recurred, and one is living, and is well.

Following the discussion of this paper, DR. FRANKE of Braunschweig showed a patient in whom transplantation of a tendon for paralytic club-foot had successfully been performed.

DR. JORDAN of Heidelberg then read a paper on LUPUS OF THE HAND AND LYMPHANGITIS TUBERCULOSA,

in which he stated that, as but thirteen cases of this affection have been reported, it is consequently rare. Two of these have occurred in the persons of cigarmakers, and it, therefore, is probable that local infection plays an important rôle in its causation.

FOURTH DAY—APRIL 24TH.

The proceedings were opened by the presentation of a paper by DR. PARTSCH of Breslau on

THE REPARATION OF THE INFERIOR MAXILLA AFTER RESECTION.

The speaker's method consists in the boring of two holes in the jaw, one on each side of the portion to be resected, prior to the resection, and the fastening of an aluminum plate to the jaw by means of these openings after the section has been removed. This plate does not hinder the process of healing, and when this has become complete an interdental splint of the same material is applied.

RESTORATION OF THE FUNCTION OF THE SPHINCTER ANI MUSCLE ACCORDING TO GERSUNY'S METHOD

was the title of a paper by DR. PRUTZ of Königsberg. After removal of the coccyx and a portion of the sacrum, the gut is pulled downward for a distance of about two centimeters and then twisted until the opening is closed.

It is then fastened in place by two rows of sutures. In eight cases in which this operation was performed the results, upon the whole, were good.

THE LYMPH VESSELS OF THE TONGUE, AND THEIR RELATION TO THE SPREAD OF TONGUE CANCER

was the title of the next paper, which was read by DR. KUTTNER of Tübingen. He pointed out the fact that the course of the lymphatics of the tongue is toward the submaxillary glands, toward the deep cervical glands which lie directly on the jugular vein, and also toward the glands which are located deep under the sternum. From the posterior region of the tongue the channels lead to the chain of glands lying along the course of the carotids. In cases of malignant disease of the tongue, in which removal is attempted, it is therefore extremely important to remove the submaxillary and deep cervical glands in order to prevent a possibility of recurrence. The speaker referred to the excellent work which has been done in the study of these conditions by Dr. Gerota, in Waldeyer's laboratory.

DR. GURLT of Berlin then read a paper on STATISTICS OF ANESTHESIA.

He said that from the beginning of the year 1895 up to the present time he had been able to collect reports of 52,804 cases in which an anesthetic had been administered. Of this number 27,025 patients had been given chloroform, resulting in twenty-nine deaths, 19,856 ether, with three deaths, 4927 ether and chloroform mixed, no deaths, and 996 Billroth's mixture, no deaths.

EXARTICULATION AT THE SACRO-ILIAC JOINT was the title of a paper by Dr. BARDENHAUER of Cologne. He reported the case of a female, forty-six years of age, suffering from coxitis and psoas abscess. The iliac artery first was tied, and the os pubes freed and sawed through. The sacro-iliac joint was then dislocated and separated. The wound was closed by means of large skin flaps. The patient made a good recovery and was able to leave her bed in eight weeks. A small fistula remains. An artificial limb has been fitted and the woman moves about on crutches.

PROFESSOR TRENDELENBURG of Leipzig, by a large majority, was elected president for the ensuing year, after which the Society adjourned.

HARVARD MEDICAL SOCIETY.

Stated Meeting, Held Saturday, April 24, 1897.

THE President, JOHN WINTERS BRANNAN, M.D., in the Chair.

DR. RICHARD FROTHINGHAM presented a case of patent foramen ovale. The patient was a male, eighteen years of age, who was markedly cyanosed. He was not a blue baby at birth, but developed this condition after sustaining a fall when he was between four and five years old. The history was somewhat obscure, but the speaker thought the condition was due to a congenital lesion. The boy was not well developed; his head was small, and he was dull and stupid. A systolic murmur was heard over the base of the heart and extending to the left of the

sternum. There was no history of rheumatism. The fingers and toes were black and presented the typical clubbed appearance. The tongue also was black. He complained of dyspnea on going up stairs and on any unusual exertion, but felt well in all other respects.

DR. DILLON BROWN read a paper, entitled
THE USE OF ANTITOXIN IN THE TREATMENT OF
LARYNGEAL DIPHTHERIA.

The author said that for therapeutic purposes diphtheria may be divided into two types: laryngeal and nasopharyngeal. In the first the danger is from asphyxia caused by obstruction of the larynx or by extension of the membranous inflammation to the smaller bronchi, while in the latter a fatal termination is almost invariably due to absorption of poisons through the lymph and blood supply. Again, in laryngeal cases the disease is rarely the result of a mixed infection, whereas nasopharyngeal diphtheria, as it is seen in practice and not in the laboratory, is frequently due to a mixed infection. The importance of this from a therapeutic point of view is evident when the difference between infection by the Klebs-Loeffler bacillus and by the streptococcus is considered. In streptococcus infection, the germ itself finds its way into the blood and viscera, but this is seldom true of the bacillus in Klebs-Loeffler infection. In one case there is only a toxin to contend with; in the other there is both the germ and its toxin. There are many unsolved problems in connection with the antitoxin treatment of nasopharyngeal diphtheria, but there can be no doubt of its almost specific value in the laryngeal form of the disease. In proof of this position, the reader gave an analysis of 991 cases of laryngeal diphtheria seen by him during the past twelve years. With but few exceptions the patients had been seen in consultation with other physicians. During the years between 1885 and 1890, 442 patients were intubated, of whom 27.3 per cent. recovered. From 1890 to September, 1894, calomel fumigation was employed, and of 295 cases operated upon, 41.6 per cent. recovered. In September, 1894, the antitoxin period began, and of 59 patients intubated since that time, 67.8 per cent. recovered. The analysis showed marked improvement after calomel fumigations were used, and the still greater success after the introduction of the antitoxin treatment. The benefit is seen not only in the larger number of recoveries after operation, but also in the increased percentage of patients who recovered without an operation.

DR. J. G. PERRY thought the paper an admirable one, because it gave a standard by which to go. The methods of preparing the antitoxin are improving every day, and we are also learning better how to use it.

THE PRESIDENT said that his experience with diphtheria had been mainly confined to hospital practice, and for that reason his conclusions might differ somewhat from those of Dr. Brown. He agreed with the reader of the paper that it is especially in laryngeal cases that benefit resulted from the use of antitoxin. He had seen, however, but few cases in which the intubation tube could be removed earlier because antitoxin had been given. In fact, there were then two patients in the hospital with which he is connected who have worn tubes for nearly a

year, although both have received antitoxin. He was not able to draw such a sharp line between laryngeal and nasopharyngeal diphtheria as Dr. Brown had done. Autopsies in fatal cases of laryngeal stenosis often show bronchopneumonia with the presence of the streptococcus and the staphylococcus in the pulmonary tissue. In other words, a secondary infection had taken place, although there was no lesion of the nasopharynx.

It was now the practice at the Willard Parker Hospital to give the full dose of antitoxin, 2000 to 6000 units, in one injection when the patient entered the hospital, instead of giving 1000 to 2000 units on the first day, and repeating the dose on the second and third days. Mild cases receive 2000 units, and septic or laryngeal cases 6000 units. Calomel sublimation was formerly much employed in the hospital, but of late it has fallen into disuse, partly because it seems unnecessary, and also because of the anemia produced by it.

DR. BROWN, in closing, emphasized the point he had made in the paper with regard to laryngeal and nasopharyngeal diphtheria being practically two separate diseases so far as treatment is concerned. It has been shown that antitoxin will clear up membrane very quickly, and the time during which the intubation tube must be worn is therefore shortened. Regarding the mixed infection observed in the Willard Parker Hospital in laryngeal cases, he believed it to be due to the conditions in the hospital, and not to the disease itself. In all city institutions there is more or less crowding of patients, and they infect each other. He referred to what had been said about calomel fumigation, and stated that it was quite true that anemia follows this treatment, but that a large percentage of cases recover in spite of the great prostration.

REVIEWS.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By ROBERTS BARTHOLOW, M.A., M.D., LL.D. Ninth edition, revised and enlarged. New York: D. Appleton & Co., 1896.

THERE has been progress in therapeutics as well as in surgery. The eighth edition of Bartholow appeared in 1893, and three years later we have the ninth edition. In this the work has been enlarged by nearly fifty pages. These additions and alterations have been necessitated by the questionable introduction of new synthetic remedies. For the most part these medicaments are proprietary, and although they are largely used by a certain class of physicians, have not received the sanction of the official Pharmacopoeia of the United States or of any other well-known authority until now. This is another potent illustration of the fact that methods in medical practice are steadily changing, and the question is constantly arising whether innovations are to be met and opposed or whether they are positive indications of the signs of the times and are to be accepted. In the Preface, Dr. Bartholow says, "In the absence of an authoritative tribunal to decide on the remedies for recognition and use, I have employed my own judgment in selecting those for treatment in this work. Time will determine the value of

those taken up for consideration; some will continue in favor, the failures will be eliminated." The whole volume is presented in the same style as its predecessors, and it will not appear strange to those familiar with the former editions.

AUTOSCOPY OF THE LARYNX AND THE TRACHEA.

Direct Examination Without Mirror. By ALFRED KIRSTEIN, M.D., authorized translation (altered, enlarged, and revised by the author), by MAX THORNER, A.M., M.D., Professor of Clinical Laryngology and Otology, Cincinnati College of Medicine and Surgery; Laryngologist and Aurist to the Cincinnati Hospital, etc., with twelve illustrations. Philadelphia: The F. A. Davis Co., 1897.

THIS translation, made at the request and with the collaboration of the author, is practically a second edition of the original German monograph. In that publication Kirstein first drew attention to a laryngoscopic method which was based on the fact that the angle usually existing between the axis of the oral cavity and that of the larynx could be changed into a nearly straight line by sufficiently tilting the chin upward and forward. This apparatus consisted of a specially designed tongue-depressor with electric light, and a head-mirror with similar illumination.

Of late Kirstein has suggested the possibility of discarding the electroscope and employing a special spatula alone. However we may be inclined to limit the applicability of this method, there is no doubt that it enables us in some cases to get a particularly good view of the posterior wall of the larynx and the trachea. Laryngoscopy is no longer the only method, although it will still be the classical one of examining the air passages for diagnostic purposes, but in endolaryngeal and endotracheal surgery Kirstein's simple method of direct inspection by extreme depression of the tongue will be of practical value in a majority of cases.

THE MEDICAL DIRECTORY OF THE CITY OF NEW YORK. Published under the auspices of the Medical Society of the County of New York. Press of Le Huray & Co., New York, 1897.

THIS annual directory appears on time, and is a welcome visitor. The same general plan has been followed in the preparation of it as in previous years except the arrangement of the names in the state lists for New York, New Jersey, and Connecticut, which have been arranged by towns instead of by counties. A medical directory like this is certainly indispensable in New York, and the separate lists necessitated by the present classification emphasizes the desirability of every practitioner in New York County becoming a member of the County Society. In the list of hospitals, dispensaries, etc., we notice that the names of attending physicians and surgeons to outpatient departments are not given.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Volume IX. Philadelphia: Published by the Association, 1896.

THIS annual report of the Orthopedic Association must

always be viewed as a fair index of the progress of orthopedic surgery. The contributions, to the number of thirty, speak for much laborious work though not presenting anything original.

The president's "definition of the scope of orthopedic surgery" is very elastic and would lead one to infer that the day is not far distant when fractures, dislocations, and infectious bone diseases are to be relegated to the orthopedist. With this tendency it is not surprising to see such an article as "Ingrown Toe-nail Mechanically Treated" in an orthopedic work.

The subject of rotary lateral curvature appears many times, the authors of these papers being Judson, Brackett, Roth, and Teschner. Teschner's view is the most recent as regards treatment; discarding all mechanic support he sees a panacea in the application of heavy gymnastics for a rapid cure. The unfavorable criticism was advanced mostly upon theoretic grounds.

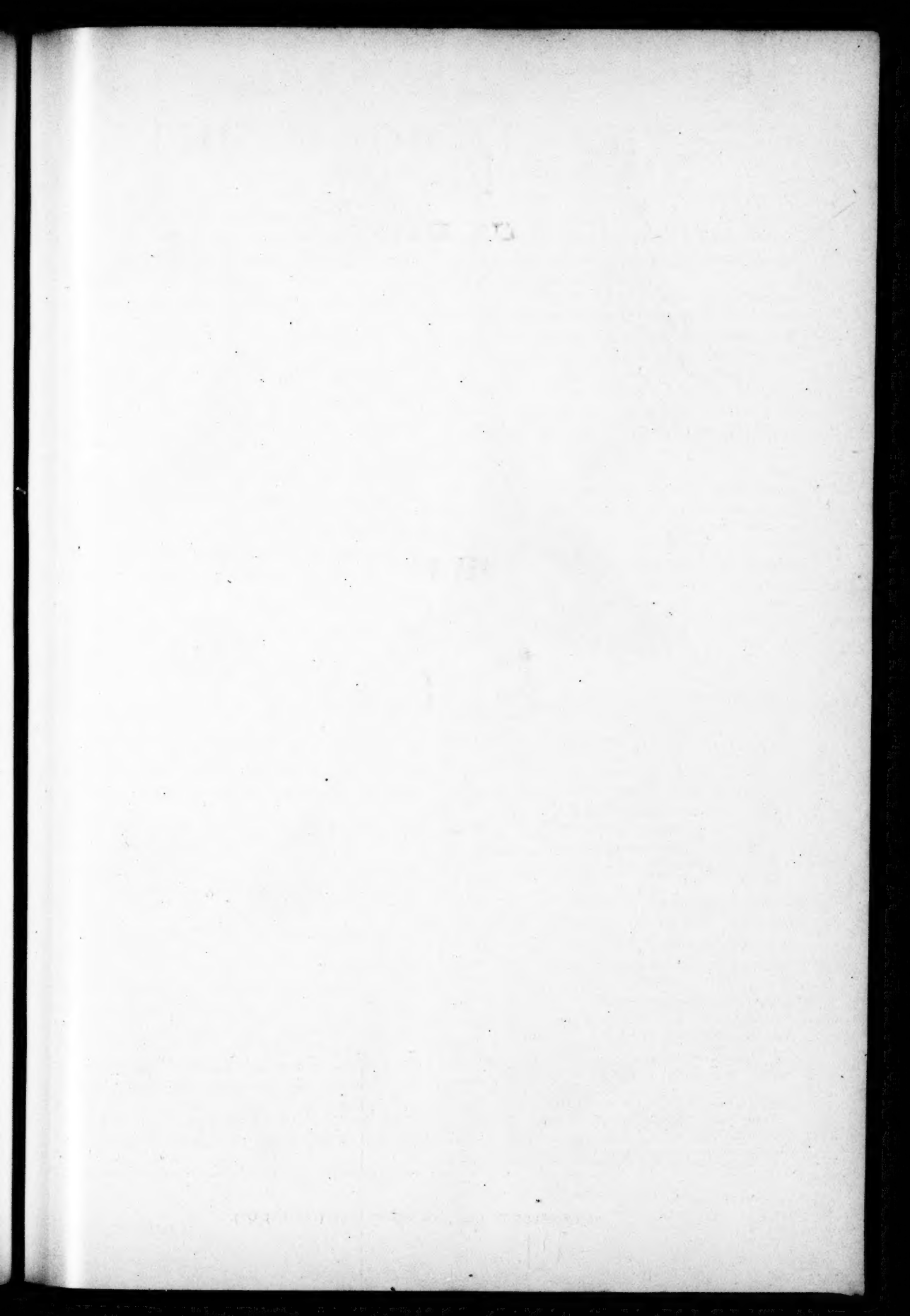
Treatment of congenital dislocation of the hip receives mention in a brief paper by Brodhurst, and a lengthy one by Lorenz. The former expresses himself as an adherent to the open method in treating these affections; for the latter's very able contribution a perusal of the article is worthy in order to fully understand his "cure by bloodless reduction and weighting." Among other interesting articles are "Spontaneous Dislocation of Hip-Joint," and "Torticollis Due to Adenoid Vegetations and Chronic Hypertrophy of Tonsils.

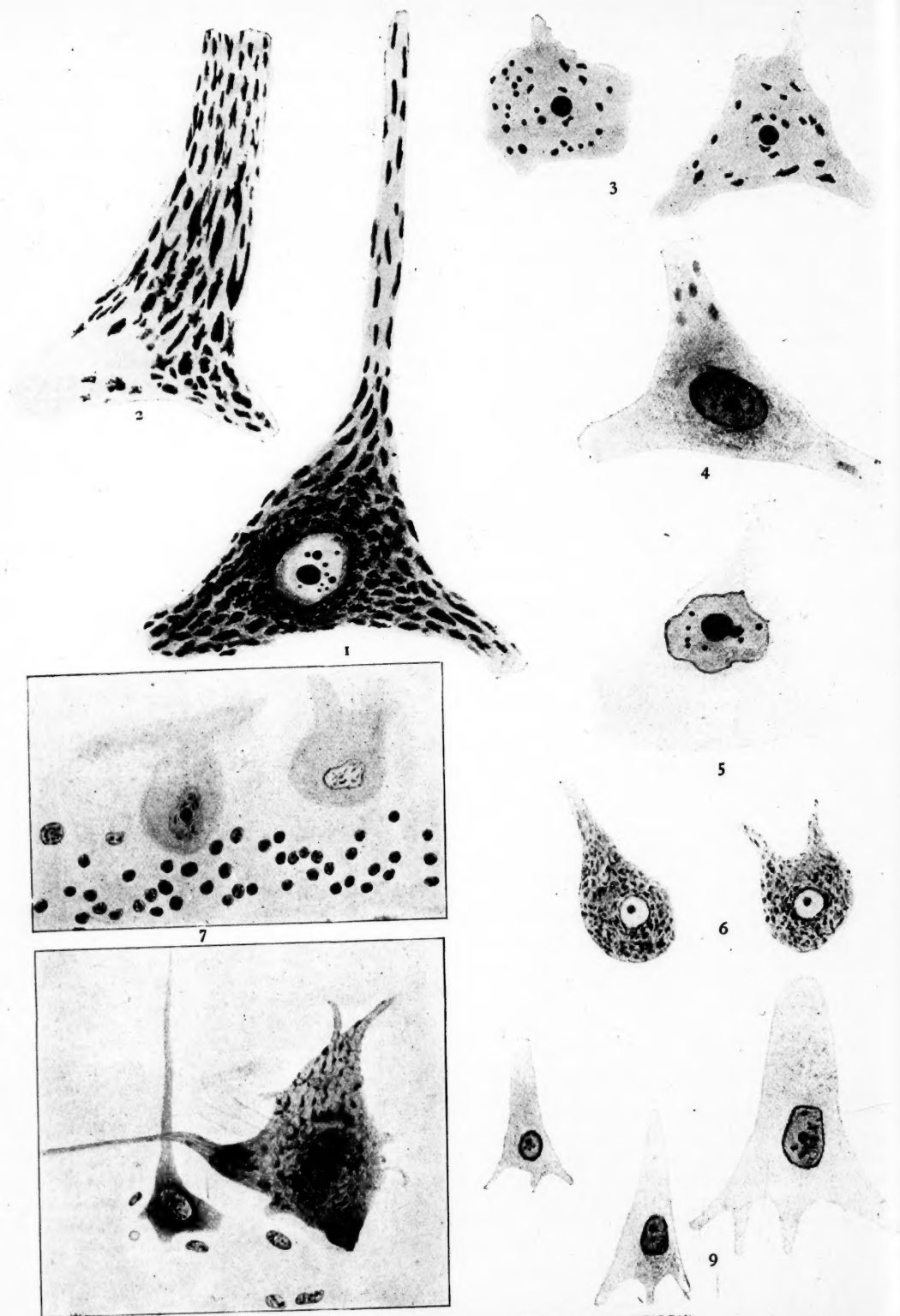
PRINCIPLES OR GUIDES FOR A BETTER SELECTION OR CLASSIFICATION OF CONSUMPTIVES AMENABLE TO HIGH ALTITUDE TREATMENT. By A. EDGAR TUSSEY, M.D. Philadelphia: P. Blakiston, Son & Co., 1897.

THIS little book of 144 pages well merits the attention of all who are interested in the care and treatment of pulmonary tuberculosis. Perhaps there is no question of the treatment of phthisis which deserves as careful consideration as that of a change of the environment of the patient. This makes a correct discrimination and selection of the various so-called health localities of prime importance. To aid the practitioner in this as well as to guide him in the selection of the cases of this disease which may be treated at home are two of the features of this instructive and practical book.

A VEST-POCKET MEDICAL DICTIONARY, embracing those terms and abbreviations which are commonly found in the medical literature of the day, but excluding the names of drugs and of many special anatomic terms. By ALBERT H. BUCK, M. D., New York City. New York: William Wood & Company, 1896.

This little book is not only convenient for prompt and constant use, but is entirely reliable and contains the latest medical terms. A large number of new words have been introduced in medical terminology during the past few years, and some of the older terms have undergone significant changes. A compact book containing a record of these new words and recent changes is most desirable. This little book meets the demand quite satisfactorily.





8 NERVE-CELLS IN CASES OF SUNSTROKE (VAN GEISON).

LAMBERT.